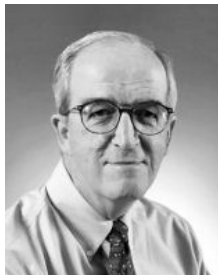


**5:00 – 6:30 PM, SUNDAY
TUTORIAL LECTURES
Ballroom B**

5:00 pm The Art of Communication in the Sciences



Willard W. Harrison, *University of Florida*

5:45 pm Ion Mobility in Mass Spectrometry



David E. Clemmer, *Indiana University*

**6:45 – 7:45 PM, SUNDAY
CONFERENCE OPENING AND PLENARY LECTURE
Exhibit Hall C**

6:45 pm Welcome to the 57th ASMS Conference on Mass Spectrometry
Gary L. Glish, President, ASMS

7:00 pm Biofuels and Global Climate Change



Jerald L. Schnoor, *University of Iowa*

**7:45 – 9:30 pm
WELCOME RECEPTION IN THE EXHIBIT HALL
Exhibit Hall AB**

**8:30 – 10:30 AM, MONDAY MORNING
MASS SPECTROMETRY OF LIPIDS
Ballroom A**

- MOA am 8:30 **New Insights into the Human Lens through Multi-Faceted Lipid Mass Spectrometry**; Jane M. Deeley¹; Jessica R. Nealon¹; Roger J.W. Truscott²; Stephen J. Blanksby¹; Todd W. Mitchell¹; ¹*University of Wollongong, Wollongong, Australia*; ²*University of Sydney, Sydney, Australia*
- MOA am 8:50 **Automated Lipid Identification and Quantitation by Multidimensional Mass Spectrometry-Based Shotgun Lipidomics**; Kui Yang; Hua Cheng; Richard Gross; Xianlin Han; *Washington University, St. Louis, MO*
- MOA am 9:10 **Methodology for the Rapid Determination of Lipids Employing Chip-Based Nano-ESI FT-ICR MS, Accurate Mass, and Infrared Heating**; Larry Lerno; Carlito Lebrilla; *University of California, Davis, CA*
- MOA am 9:30 **Identification of a Class of Endogenous Sulfated Glycosphingolipids in NSC11 Glioblastoma Cancer Stem Cells**; Huan He^{1,2}; Mark R. Emmett²; Carol Nilsson³; Alan G. Marshall²; Howard Colman¹; Charles A. Conrad⁴; ¹*Florida State University, Tallahassee, FL*; ²*Nat'l High Magnetic Field Lab, Tallahassee, FL*; ³*Pfizer, Inc., San Diego, CA*; ⁴*M.D. Anderson Cancer Center, Houston, TX*
- MOA am 9:50 **The Comparative Lipidomics of VSV, SFV and their Host Plasma Membrane by Quantitative Shotgun Mass Spectrometry**; Julio L Sampaio¹; Lucie Kalvodova²; Christer Ejlsing¹; Kai Simons¹; Andrej Shevchenko¹; ¹*MPI-CBG, Dresden, Germany*; ²*Infectious Disease Research Institute, Seattle, Washington*
- MOA am 10:10 **From Single Cells to Whole Body Sections: Multiscale Imaging of Phospholipids by MALDI MS**; Pierre Chaurand; Peggi Angel; Richard M. Caprioli; *Vanderbilt University, Nashville, TN*

**8:30 – 10:30 AM, MONDAY MORNING
CHROMATOGRAPHY-MASS SPECTROMETRY
APPROACHES TO INCREASE THROUGHPUT IN
DISCOVERY PK ASSAYS
Ballroom B**

- MOB am 8:30 **High Throughput LC-MS in ADME/TOX: Making the Impossible Possible**; Li Di; Edward Kerns; Susan Petusky; Susan Li; Zhen Lin; Guy Carter; *Wyeth Research, Monmouth Jct., NJ*
- MOB am 8:50 **Enhancing the Throughput of Discovery PK Using High Resolution Ultrafiltration LC-MS**; Richard B. Van Breemen; *University of Illinois, Chicago, IL*
- MOB am 9:10 **Microflow UPLC/MS as a Method to Improve Discovery PK Throughput**; Heather E Skor; David C Gale; Sadayappan V Rahavendran; *Pfizer Global Research & Development, La Jolla, CA*
- MOB am 9:30 **Comparison of HPLC-MS/MS and UPLC-MS/MS Performances for Quantification of a Clinical Candidate and its Metabolites in Plasma Utilizing Chemometric Approach**; Margret Thorsteinsdottir^{1,2}; Gisli Bragason²; Baldur Bragi Sigurdsson²; Olafur Þ Magnússon²; ¹*University of Iceland, Reykjavik, Iceland*; ²*deCODE genetics, Reykjavik, Iceland*

- MOB am 9:50 **Fast Determination of Metabolic Soft Spots by New LC/MS Technologies: An Effective Approach to Improving PK Proprieties;** Mingshe Zhu; Qian Ruan; Ming Yao; *Bristol-Myers Squibb, Princeton, NJ*
- MOB am 10:10 **A Novel and Integrated Platform for Fully Automated High-Throughput LCMSMS Analysis of *in vitro* ADME Samples;** Andreas H. Luippold; Thomas Arnhold; Wolfgang Joerg; Klaus Klinder; Kurt Schumacher; *Boehringer Ingelheim Pharma GmbH & Co KG, Biberach An Der Riss, Germany*

**8:30 – 10:30 AM, MONDAY MORNING
CHARACTERIZING PROTEIN-PROTEIN INTERACTIONS
Room 201**

- MOC am 8:30 **Investigation of Intact Protein Complexes and Protein-Protein Interactions by Native Ion Mobility and Tandem Mass Spectrometry;** Esther Van Duijn; Arjan Barendregt; Charlotte Uetrecht; Kristina Lorenzen; Rebecca Rose; Glen Shoemaker; Albert J.R. Heck; *Utrecht University, Utrecht, Netherlands*
- MOC am 8:50 **Micelles Protect ATP Synthases from Solution to Gas Phase and Reveal Novel Protein Interactions in Membrane Embedded Subunits;** Carol Robinson; Min Zhou; Dijana Matak Vinkovic; Nina Morgner; Shoshanna Isaacson; Neslon Barrera; *University of Cambridge, Cambridge, UK*
- MOC am 9:10 **Transient Protein Interactions and Ligand Exchange between Transporters and Receptors: MS Study of Retinoic Acid Delivery to RAR by CRABP;** Virginie Sjoelund; Igor A. Kaltashov; *University of Massachusetts, Amherst, MA*
- MOC am 9:30 **Comprehensive Structural Mass Spectrometry for the Identification of Assembly Interactions in an HIV-1 Capsid Mutant Protein;** Lisa Jones¹; Hao Zhang¹; Michael L. Gross¹; Peter Prevelige²; ¹*Washington University, St. Louis, MO*; ²*University of Alabama, Birmingham, AL*
- MOC am 9:50 **New Approaches for Efficient Chemical Cross-linking of Proteins and Protein Complexes;** Julian Mintseris; Steven Gygi; *Harvard Medical School, Boston, MA*
- MOC am 10:10 **Assembly and stability of native and modified Shiga toxins investigated by ES-MS;** Elena Kitova¹; George L Mulvey²; Tanis Dingle²; Thomas P Griener²; Glen D Armstrong²; John Klassen¹; ¹*University of Alberta, Edmonton, Canada*; ²*University of Calgary, Calgary, Alberta*

**8:30 – 10:30 AM, MONDAY MORNING
DEVELOPMENTS IN ION MOBILITY
INSTRUMENTATION AND THEORY
Room 204**

- MOD am 8:30 **A New High Throughput Ultra-Sensitive and Quantitative NanoLC-IMS-MS Platform;** Richard D. Smith; Erin Baker; Yehia Ibrahim; David Prior; William Danielson; Anuj Shah; Ryan Kelly; Jason Page; Gordon Anderson; Keqi Tang; Mikhail Belov; *Pacific Northwest National Laboratory, Richland, WA*
- MOD am 8:50 **Next-Generation Ion Mobility-Mass Spectrometry Instrumentation for the Analysis of Large Protein Assemblies;** Brandon Ruotolo¹; Kevin Giles²; John B Hoyes²; Carol Robinson¹;

- MOD am 9:10 **Improving the Accuracy of Experimental and Theoretical Cross-Section Measurements in Travelling Wave Ion Mobility Spectrometry-Mass Spectrometry;** Tom W. Knapman¹; Joshua T. Berryman¹; Victoria L Morton¹; Iain D G Campuzano²; Sarah A. Harris¹; Peter G Stockley¹; Alison E. Ashcroft¹; ¹*Astbury Centre for Structural Molecular Biology, University of Leeds, Leeds UK*; ²*Waters Corporation, Manchester, UK*
- MOD am 9:30 **Deriving a Theoretical Mass Scale from Ion Mobility Measurements;** Stephen Valentine; David E. Clemmer; *Indiana University, Bloomington, IN*
- MOD am 9:50 **Separation of Ion Electronic States by Cryogenic Ion Mobility-Mass Spectrometry;** Jody May; David H. Russell; *Texas A&M University, College Station, TX*
- MOD am 10:10 **Integrated 'Omics' on the Basis of Structural Separations by Ion Mobility-Mass Spectrometry;** Larissa S. Fenn; Michal Kliman; Thomas J. Kerr; Randi Gant; Ablatt Mahsut; Sophie Zhao; John A. McLean; *Vanderbilt University, Nashville, TN*

**8:30 – 10:30 AM, MONDAY MORNING
QUANTITATIVE BOTTOM UP PROTEOMICS
Exhibit Hall C**

- MOE am 8:30 **Designing, Executing, and Analyzing Quantitative Bottom Up Proteomics Studies for Biological Discovery;** Michael Washburn; *Stowers Institute for Medical Research, Kansas City, MO*
- MOE am 8:50 **Quantitative MS Proteomics with ¹⁴N/¹⁵N Metabolic Labelling: Precision, Accuracy and Power;** Matthew Russell; Phil D Charles; Kathryn S Lilley; *University of Cambridge, Cambridge, UK*
- MOE am 9:10 **Large-Scale iTRAQ-Based Quantitative Proteomic Comparison of Human ES, iP, and somatic Cells Using Beam-Type CAD with Ion Trap Mass Analysis;** Douglas H Phanstiel; Justin Brumbaugh; Graeme C Mcalister; Craig D Wenger; Shulan Tian; James A Thomson; Ron Stewart; Joshua J. Coon; *University of Wisconsin, Madison, WI*
- MOE am 9:30 **Targeted Quantitative Proteomics Analysis Using a Novel Stable Isotope Tagging System and Tandem Mass Spectrometry;** Wei Yan^{1,2}; Jie Luo¹; Jimmy Eng^{1,2}; Ruedi Aebersold^{1,3}; Jeff Ranish¹; ¹*Institute for Systems Biology, Seattle, WA*; ²*University of Washington, Seattle, WA*; ³*Swiss Federal Institute of Technology, Zurich, Switzerland*
- MOE am 9:50 **Using Differential Proteomics to Drive Targeted Analyses: Understanding Development in the Worm;** Gregory Finney¹; Gennifer Merrihew²; Brendan Maclean²; Michael J. Maccoss²; ¹*Univ of Washington, Genome S, Seattle, WA*; ²*University of Washington, Seattle, WA*
- MOE am 10:10 **One-Year Longitudinal Study of the Chicken Plasma Proteome to Identify Biomarkers for Epithelial Ovarian Cancer;** Adam Hawkrige; Rebecca Wysocky; James Petite; Kenneth Anderson; Paul Mozdziaik; Jonathan Horowitz;

David C. Muddiman; *North Carolina State University, Raleigh, NC*

**8:30 – 10:30 AM, MONDAY MORNING
FUNDAMENTALS AND NOVEL APPLICATIONS OF
ION/MOLECULE REACTIONS
Room 103**

- MOF am 8:30 **Gas Phase Reactions of Carbanions with N and O Atoms;** Zhibo Yang; Brian Eichelberger; Oscar Martinez Jr.; Momir Stepanovic; Theodore P. Snow; Veronica M. Bierbaum; *University of Colorado, Boulder, CO*
- MOF am 8:50 **Direct Observation of the Reactions of the Phenyl Radical with Dioxide Using Distonic Ions;** Benjamin B. Kirk; David G Harman; Stephen J Blanksby; *University of Wollongong, Wollongong, Australia*
- MOF am 9:10 **Ion Molecule Ghostbusters: Tracking Ephemeral Radical Migration in Peptides and Proteins;** Benjamin Moore¹; Tony Ly¹; Stephen J. Blanksby²; Ryan R. Julian¹; ¹*University of California, Riverside, Riverside, CA*; ²*University of Wollongong, Wollongong, Nsw, Australia*
- MOF am 9:30 **Ion/Molecule Reactions at Atmospheric Pressure with ESI-MS: Fundamentals and Applications;** David Touboul^{1,2}; Matthias Jecklin²; Renato Zenobi²; ¹*CNRS-ICSN, Gif-sur-yvette, France*; ²*ETH Zürich, Zürich, Switzerland*
- MOF am 9:50 **Ionization Mechanisms Related to Negative Ion APPI, APCI, and DART;** Charles N. McEwen¹; Barbara S. Larsen²; ¹*Univ. of the Sciences in PA, Philadelphia, PA*; ²*The DuPont Company, Wilmington, DE*
- MOF am 10:10 **Data Dependent Neutral Gain MS3: Toward Automated Functional Group Identification in Drug Metabolites via LC-MS, Ion-Molecule Reactions and CAD;** Steven Habicht; Nelson Vinueza; Hilka Kenttamaa; *Purdue University, West Lafayette, IN*

**8:30 – 10:30 AM, MONDAY MORNING
FRONTIERS IN ELEMENTAL MASS SPECTROMETRY
Room 113**

- MOG am 08:30 **Bio-Imaging of Metals in the Brain by Laser Ablation Inductively Coupled Plasma Mass Spectrometry (LA-ICP-MS) to Study Neurodegenerative Diseases;** Johanna Sabine Becker; *Forschungszentrum Juelich, Juelich, Germany*
- MOG am 8:50 **Cytotoxicity of Arsenic Containing Chemical Warfare Agent Degradation Products with Metallomic Approaches for Metabolite Analysis;** Karolin K. Kroening¹; Renee N. Easter¹; Morwena J.V. Solivio¹; Alvaro Puga²; Joseph A. Caruso¹; ¹*Dept. of Chemistry, UC, Cincinnati, OH*; ²*Dept. of Environmental Health, UC, Cincinnati, OH*
- MOG am 9:10 **Speciation Analysis of Gadolinium Chelates in Hospital Effluents and Wastewater Treatment Plant Sewage by a Novel HILIC/ICP-MS Method;** Jens Künemeyer; Lydia Terborg; Björn Meermann; Christine Brauckmann; Uwe Karst; *University of Münster, Münster, Germany*
- MOG am 9:30 **Characterization of Selenium Metabolites in Se-enriched Kale via Ion-Pairing Reversed Phase Chromatography with ICPMS and ESI-IT-MS Detection;** Qilin Chan; Scott E. Afton; Joseph A. Caruso; *Department of Chemistry, University of Cincinnati, Cincinnati, OH*

- MOG am 9:50 **Elucidating the Role of Metals in Amyotrophic Lateral Sclerosis Using Inline Liquid Chromatography- Inductively Coupled Plasma- Mass Spectrometry;** Lelie Herman¹; Liba Amir²; Pik Chan³; Joan Valentine¹; Julian Whitelegge³; ¹*University of California, Los Angeles, Los Angeles, CA*; ²*Agilent, Wilmington, DE*; ³*University of California LA, Los Angeles, CA*

- MOG am 10:10 **Separation and Quantification of Antisense Oligonucleotides by Hydrophilic Interaction Liquid Chromatography Coupled to ICP-MS;** Renee N. Easter; Karolin K. Kroening; Patrick A. Limbach; Joseph A. Caruso; *University of Cincinnati, Cincinnati, OH*

**10:30 AM – 2:30 PM, MONDAY
POSTER SESSION
Exhibit Hall AB**

**2:30 – 4:30 PM, MONDAY AFTERNOON
MS AND ACCELERATOR MS FOR HUMAN
MICRODOSING AND METABOLISM STUDIES
Ballroom A**

- MOA pm 2:30 **A Review of the State-of-the Art of human Microdosing and Nanotracer Studies - as an Introduction to the Session;** Graeme Young; *GlaxoSmithKline*
- MOA pm 2:50 **Absolute Quantitation without Internal Standards: Accelerator Mass Spectrometry and Microtracers for Pharmacokinetics and Metabolite Discovery;** Pete Lohstroh; Brad Keck; Le Vuong; John Vogel; Stephen Dueker; *Vitalea Science, Davis, CA*
- MOA pm 3:10 **Quantification and Identification of Metabolites at Microdosing Levels;** Carmaj Seto¹; Takeo Sakuma¹; Jinsong Ni²; Fred Ouyang²; Devin Welty²; Van Dinh²; Gabriella Szekely-klepser²; Andrew Acheampong²; ¹*MDS Analytical Technologies, Concord, Canada*; ²*Allergan Inc., Irvine, CA*
- MOA pm 3:30 **Single Instrument AMS and IRMS for Microdose/Microtrace Mass Balance Studies;** Giacomo Jason¹; Tim Schulz-König²; Stephen Dueker¹; Brad Keck¹; Hans-Arno Synal²; John Vogel¹; ¹*Vitalea Science, Davis, CA*; ²*ETH Zurich, Zurich, Switzerland*
- MOA pm 3:50 **Early Investigation of Human Metabolism in Drug Development;** David S. Wagner; Amanda Culp; John Ulrich; Andrea Sefler; Steve Castellino; *GlaxoSmithKline, Rtp, NC*
- MOA pm 4:10 **Comprehensive Analysis of (Phosphorylated) Nucleoside Reverse Transcriptase Inhibitors and Endogenous Deoxynucleotides in Plasma and PBMCs Using (Ion-Pair) LC-MS/MS;** Leon Coulier; Henk Gerritsen; Lars Brull; *TNO Quality of Life, Zeist, Netherlands*

**2:30 – 4:30 PM, MONDAY AFTERNOON
MASS SPECTROMETRY AND CLINICAL APPLICATIONS
Ballroom B**

- MOB pm 2:30 **Dermcidin Identification from Exhaled Air for Lung Cancer Diagnosis;** Wei-chao Chang¹; Ming-Shyan Huang²; Chih-Jen Yang²; Wen-Yu Wang²; Tsung-Ching Lai¹; Michael Hsiao¹; Chung-Hsuan Chen¹; ¹*The Genomics Research Center, Academia Sinica., Taipei, Taiwan*;

²*Kaohsiung Medical University Hospital, Kaohsiung, Taiwan*

- MOB pm 2:50 **Large-Scale Proteomic Study of Chronic Kidney Allograft Rejection from Tissue Biopsies;** Aleksey Nakorchevsky¹; Johannes Hewel²; Daniel Salomon¹; John Yates¹; ¹*The Scripps Research Institute, La Jolla, CA;* ²*University of Toronto, Toronto, ON*
- MOB pm 3:10 **Targeted MRM Expression Profiling of 45 Proteins in a Cohort of 60 Cardiovascular Disease Plasma Samples;** Michael A. Kuzyk¹; Darryl B. Hardie¹; Gabriela Cohen-Freue²; Dominik Domanski¹; Juncong Yang¹; John S. Hill²; Angela M. Jackson¹; Christoph H. Borchers¹; ¹*UVic-Genome BC Proteomics Centre, Victoria, Canada;* ²*James Hogg iCAPTURE Centre, Vancouver, Canada*
- MOB pm 3:30 **Sensitive Quantification of Circulating Vitamin D Metabolites in Multiple Sclerosis Patients Using Selective SPE coupled to Capillary-LC and Isotope-Dilution MS;** Xiaotao Duan^{1,2}; Eunjin Bang¹; Hao Wang^{1,2}; Bianca Weinstock-Guttman¹; Murali Ramanathan¹; Jun Qu^{1,2}; ¹*University at Buffalo, Amherst, NY;* ²*CoE Bioinformatics & Life Sci, Buffalo, NY*
- MOB pm 3:50 **Ultra High-Throughput Quantitative LC-MS/MS in a Clinical Diagnostics Laboratory - Breaking the 2000 Samples/System/Day Barrier;** Russell Grant; Brian Rappold; Patricia Holland; *LabCorp, Burlington, NC*
- MOB pm 4:10 **Quantitative Human Plasma Protein Biomarker Verification by Multiple Reaction Monitoring: A Multi-site Study of Precision and Reproducibility;** Terri Addona¹; Susan E. Abbatiello¹; Birgit Schilling²; Steven J. Skates³; D. R. Mani¹; David M Bunk⁴; Clifford H. Spiegelman⁵; Lisa J. Zimmerman⁶; Amy-Joan L. Ham⁶; Hasmik Keshishian¹; Steven C. Hall⁷; Steven A. Carr¹; CPTAC Network⁸; ¹*Broad Institute, Cambridge, MA;* ²*Buck Institute for Age Research, Novato, CA;* ³*Massachusetts General Hospital, Boston, MA;* ⁴*NIST, Gaithersburg, MD;* ⁵*Texas A&M University, College Station, TX;* ⁶*Vanderbilt University, Nashville, TN;* ⁷*UCSF, San Francisco, CA;* ⁸*National Cancer Institute, Bethesda, MD*

**2:30 – 4:30 PM, MONDAY AFTERNOON
TANDEM MS OF WHOLE PROTEINS AND PROTEIN COMPLEXES
Room 201**

- MOC pm 2:30 **Revealing the Sites of Ligand and Protein Binding in Protein Complexes by Top-Down Mass Spectrometry;** Sheng Yin; Joseph A. Loo; *UCLA, Los Angeles, CA*
- MOC pm 2:50 **A High Throughput Format for Top Down Proteomics Using GELFrEE Coupled to Nanocapillary-LTQ FT ICR MS at >12 Tesla;** Ji Eun Lee¹; John F. Kellie¹; John C. Tran¹; Adaikkalam Vellaichamy¹; Dorothy Ahlf¹; Jeremiah D. Tipton²; Alan G. Marshall^{2,3}; Neil L. Kelleher¹; ¹*University of Illinois, Urbana, IL;* ²*National High Magnetic Field Laboratory, Tallahassee, FL;* ³*Florida State University, Tallahassee, FL*
- MOC pm 3:10 **High Throughput Quantitative Screening Measuring Intact Proteins by a Novel Rapid Mass Spectrometric Approach;** Kim Alving;

Gary Asmussen; Tatiana Gladysheva; James Lillie; Aharon Cohen; Bing Wang; *Genzyme Corporation, Waltham, MA*

- MOC pm 3:30 **Probing the Gas-Phase Dissociation Behavior of Model Homodimeric Protein Complexes with Divergent Interfacial Structures;** Eric D. Dodds; Anne E. Blackwell; Christopher M. Jones; Matthew H. J. Cordes; Vicki H. Wysocki; *University of Arizona, Tucson, AZ*
- MOC pm 3:50 **Sequence analysis of Intact Disulfide-Rich Mini-Proteins Using a Combined Chemical Derivatization and ETD Strategy;** Beatrix Ueberheide¹; David Fenyo¹; Paul F Alewood²; Brian Chait¹; ¹*The Rockefeller University, New York, NY;* ²*The University of Queensland, St Lucia, Australia*
- MOC pm 4:00 **Top-Down Proteomics with a 14.5 T FT-ICR Mass Spectrometer: Secondary Ion Collection in an External Octopole Ion Trap;** Jeremiah D. Tipton¹; John F. Kellie^{2,3}; Paul M. Thomas^{2,3}; Dorothy R. Ahlf^{2,3}; Chris L. Hendrickson^{1,4}; Neil L. Kelleher^{2,3}; Alan G. Marshall^{1,4}; ¹*National High Magnetic Field Laboratory, Tallahassee, FL;* ²*Department of Chemistry, UI, Urbana-Champaign, IL;* ³*Institute for Genomic Biology, UI, Urbana-Champaign, IL;* ⁴*Department of Chemistry, FSU, Tallahassee, FL*

**2:30 – 4:30 PM, MONDAY AFTERNOON
DEVELOPMENTS IN ION TRAPPING INSTRUMENTATION
Room 204**

- MOD pm 2:30 **A New Tool for High-speed Proteomics: Orbitrap Mass Analyzer Interfaced to a Dual Linear Trap;** Eugen Damoc¹; Eduard Denisov¹; Jens Griep-raming¹; Hartmut Kuipers¹; Oliver Lange¹; Alexander Makarov¹; Philip M Remes²; Jae C. Schwartz²; Dennis Taylor²; Thomas Moehring¹; Vlad Zabrouskov²; ¹*Thermo Fisher Scientific (Bremen) GmbH, Bremen, Germany;* ²*Thermo Fisher Scientific (San Jose), San Jose, CA*
- MOD pm 2:50 **Optimized Cell Geometry for Fourier Transform Ion Cyclotron Resonance Mass Spectrometry;** Christopher L. Hendrickson^{1,3}; Steven C. Beu²; Greg T. Blakney¹; Nathan Kaiser¹; Daniel G. McIntosh¹; John P. Quinn¹; Alan G. Marshall^{1,3}; ¹*National High Magnetic Field Laboratory, Tallahassee, FL;* ²*S C Beu Consulting, Austin, TX;* ³*Florida State University, Tallahassee, FL*
- MOD pm 3:10 **Femtosecond Laser-Induced Ionization/Dissociation (fs-LID) of Protonated Biomolecules;** Christine L. Kalcic; Scott A. Smith; Yuanxing Chen; Nelson Winkler; Gavin E. Reid; A. Daniel Jones; Marcos Dantus; *Michigan State University, East Lansing, MI*
- MOD pm 3:30 **Miniature Monolithic Rectilinear Ion Traps and Arrays by Stereo-lithography on Printed Circuit Board (SLA-on-PCB);** Jeff Maas¹; Scott Smith²; Zheng Ouyang¹; R. Graham Cooks¹; William Chappell¹; ¹*Purdue University, W. Lafayette, IN;* ²*Michigan State University, East Lansing, MI*
- MOD pm 3:50 **Improvements to MS3 Fragmentation Efficiency in a Low Pressure Linear Ion Trap using a Pulsed Valve and Increased Drive Frequency;** Bruce Collings; Matthew A.

Romaschin; *MDS Analytical Technologies, Concord, Canada*
 MOD pm 4:10 **Electron Ionization Dissociation in a Radio Frequency Linear Ion Trap**; Atim A. Enyenihi; Takashi Baba; Gary L. Glish; *University of North Carolina, Chapel Hill, NC*

**2:30 – 4:30 PM, MONDAY AFTERNOON
 BIOMARKER DISCOVERY – PROTEINS
 Exhibit Hall C**

MOE pm 2:30 **Protein Biomarkers: Translating Discoveries into Tools**; Douglas M. Sheeley; *National Center for Research Resources, Bethesda, MD*
 MOE pm 2:50 **An Integrative Biology Approach for Plasma Biomarker Discovery in Idiopathic Pneumonia Syndrome**; Daniela M. Schlatter¹; Mark R. Chance¹; Rob M. Ewing¹; Sergei Ilchenko¹; Gaurav S.J.B. Rana¹; Kenneth R. Cooke^{1,2}; ¹*Case Western Reserve University, Cleveland, OH*; ²*University Hospitals, Cleveland, OH*
 MOE pm 3:10 **Protein Cartography of the Tissue Microenvironment in Tumor Progression**; Thomas P. Conrads^{1,3}; Brian L. Hood^{1,3}; Melanie Flint^{1,3}; Jaqueline M. Jones-Laugner^{1,3}; Arash Radfar^{2,3}; Rajiv Dhir^{2,3}; ¹*Department of Pharmacology & Chemical Biology, Pittsburgh, PA*; ²*Department of Pathology, Pittsburgh, PA*; ³*University of Pittsburgh Cancer Institute, Pittsburgh, PA*
 MOE pm 3:30 **Studying Biological Variation of Plasma Protein Levels in a Twin Sample Set Using Targeted Multiplexed MRM Protein Expression Profiling**; Christie L. Hunter¹; Sean L. Seymour¹; Veronica Saenz-vash²; Marjorie Minkoff¹; Steven A. Carr³; Leigh Anderson⁴; ¹*Applied Biosystems, Foster City, CA*; ²*Broad Institute of MIT and H, Cambridge, MA*; ³*Broad Institute, Cambridge, MA*; ⁴*Plasma Proteome Institute, Washington, DC*
 MOE pm 3:50 **A Case Study for Shifting the Biomarker Discovery Paradigm: Predicting Response to Therapy in Hepatitis C Patients Using Unbiased Proteomics**; J. Will Thompson¹; Joseph Lucas²; Laura G. Dubois¹; Keyur Patel³; Arthur Moseley¹; Diane Uzarski³; Hans Tillman³; Robert Califf³; Geoff Ginsburg²; Jeanette McCarthy²; John McHutchison³; ¹*Duke University School of Medicine, Durham, NC*; ²*Duke Institute for Genome Sciences & Policy, Durham, NC*; ³*Duke Clinical Research Institute, Durham, NC*
 MOE pm 4:10 **A Robust Mass Spectrometry-Based Pipeline for Biomarker Discovery and Verification**; Chenwei Lin¹; Liming Hou¹; Mary Trute¹; Jeffrey R. Whiteaker¹; Alexei Krasnoselsky¹; Regine M. Schoenherr¹; Li-Chia Feng¹; Karen S. Spratt¹; Sharon Pitteri¹; Ted Holzman¹; Ted Whitmore²; Philip Gafken¹; Lisa A. Jones¹; Jason M. Hogan¹; Samir Hanash¹; Christopher J. Kemp¹; Dan Martin²; Martin McIntosh¹; Peter Nelson¹; Amanda Paulovich¹; ¹*Fred Hutchinson Cancer Research Center, Seattle, WA*; ²*Institute For System Biology, Seattle, WA*

**2:30 – 4:30 PM, MONDAY AFTERNOON
 ION SPECTROSCOPY
 Room 103**

MOF pm 2:30 **Overview: Ion Spectroscopy**; Joel H Parks; Joel H Parks; *Rowland Institute at Harv, Cambridge, MA*

MOF pm 2:50 **Deprotonation Site Determined by IR Spectroscopy**; Jos Oomens; Jeffrey D. Steill; *FOM Rijnhuizen, Nieuwegein, Netherlands*
 MOF pm 3:10 **Photofragmentation Spectroscopy of Protonated Peptides Assisted by Pulsed CO₂ Laser**; Oleg V. Boyarkin; Monia Guidi; Natalia S. Nagornova; Thomas R. Rizzo; *LCPM, EPFL, Lausanne, Switzerland*
 MOF pm 3:30 **Infra Red Spectroscopy of Fragment Ions of Protonated Peptides**; Benjamin Bythell^{1,2}; Undine Erlekam³; Michael J. Van Stipdonk¹; Bela Paizs²; Philippe Maitre³; ¹*Wichita State University, Wichita, KS*; ²*DKFZ, Heidelberg, Heidelberg, Germany*; ³*Laboratoire de Chimie Physiq, Orsay, France*
 MOF pm 3:50 **Energy Dependent VUV Photodetachment Spectroscopy of Polyanions in the Gas Phase Probed by Synchrotron Radiation**; Alexandre Giuliani^{1,2}; Debora Scuderi³; Joel Lemaire³; Christophe Dehon³; Roland Thissen⁴; Denis Duflo⁵; Laurent Nahon¹; Philippe Maitre³; ¹*Synchrotron Soleil, Gif-sur-yvette, France*; ²*Cepia INRA, Nantes, France*; ³*Laboratoire de Chimie Physique, Orsay, FRANCE*; ⁴*Laboratoire de Planétologie de Grenoble, Grenoble, France*; ⁵*Laboratoire de Physique des Lasers, Atomes et Mo, Villeneuve d'Ascq, France*
 MOF pm 4:10 **Electronic Action Spectroscopy of the GFP Model Chromophore in a Quadrupole Ion Trap: Electron Photodetachment vs. Photodissociation**; Matthew W. Forbes; Charles S. Yeung; Chloe Yang; Vy M. Dong; Rebecca A. Jockusch; *University of Toronto, Toronto, ON, Canada*

**2:30 – 4:30 PM, MONDAY AFTERNOON
 MASS SPECTROMETRY IN ENVIRONMENTAL
 TOXICOLOGY
 Room 113**

MOG pm 2:30 **The Use of Mass Spectrometry to Support Risk Assessment**; Michael G. Bartlett; Yongzhen Liu; Catherine White; Srinivasa Muralidhara; James Bruckner; *University of Georgia, Athens, GA*
 MOG pm 2:50 **Mass Spectrometry Studies of Arsenic Metabolism and Toxicity**; Meiling Lu²; Zhongwen Wang³; Anthony McKnight-Whitford¹; Jie Liu¹; Huiming Yan¹; Xiufen Lu¹; Chungang Yuan⁴; Hailin Wang²; X. Chris Le¹; ¹*University of Alberta, Edmonton, Canada*; ²*Res. Centre for Eco.-Environ, Beijing, CHINA*; ³*Health Canada, Ottawa, Canada*; ⁴*North China Electric Power Univesity, Baoding, China*
 MOG pm 3:10 **SILAC and Mass-Spectrometry for the Assessment of Effects of Arsenite on the Global Protein Expression in the Human HL-60 Cells**; Lei Xiong; Yinsheng Wang; *University of California, Riverside, CA*
 MOG pm 3:30 **Monitoring DNA Damaging Exposure Thresholds for a Foodborne Carcinogen Using LC-MS/MS and DNA Microarrays**; James Glick¹; Ka Yee Yeung²; Helmut Zarbl³; Paul Vouros¹; ¹*Northeastern University, Boston, MA*; ²*University of Washington, Seattle, WA*; ³*Robert Wood Johnson Medical School, Piscataway, NJ*
 MOG pm 3:50 **Proteomic Analysis of a Combined Psychological Stress and 7,12-Dimethylbenz(a)anthracene (DMBA) Exposure Effects of Liver Drug Metabolizing Enzymes**

Melanie Flint^{1,2}; Brian L Hood^{2,4}; Nicolas A Stewart^{3,4}; Mai Sun²; Thomas P. Conrads^{2,4}; ¹*Dept of Pharmacology & Chemical Biology, Pittsburgh, PA*; ²*Clinical Proteomics Facility, Pittsburgh, PA*; ³*Center for Clinical Pharmacology, Pittsburgh, PA*; ⁴*University of Pittsburgh, Pittsburgh, PA*

MOG pm 4:10 **Investigation of Pharmaceutical and Personal Care Products in Missouri Natural and Drinking Water Using Liquid Chromatography Tandem Mass Spectrometry;** Yinfa Ma¹; Chuan Wang¹; Sanjeeva Gamagedara¹; Isaac Stayton¹; Honglan Shi¹; Craig Adams³; Terry Timmons²; ¹*Missouri S&T, Rolla, MO*; ²*Missouri Department of Natural Resources, Jefferson City, MO*; ³*University of Kansas, Lawrence, KS*

**4:45 – 5:30 PM, MONDAY
AWARD LECTURE
Exhibit Hall C**

Recipient of the Award for a Distinguished Contribution in Mass Spectrometry

**8:30 – 10:30 AM, TUESDAY MORNING
MASS SPECTROMETRY AND BIOFUELS
Ballroom A**

TOA am 8:30 **Mass Spectrometry in the World of Bioenergy Research: An Overview;** Mary Lipton; *PNNL, Richland, WA*

TOA am 8:50 **Biodiesel: Profiling, Stability and MS Solutions;** G. John Langley¹; Julie Herniman¹; Christianne Wicking¹; Tom Lynch²; ¹*University of Southampton, Southampton, UK*; ²*BP Castrol Global Lubricants Technology, Pangbourne, UK*

TOA am 9:10 **Metaproteome Analysis of a Termite Hindgut Microbial Community: Relevant to Biofuel Development;** Kristin E Burnum¹; Stephen J Callister¹; Carrie D Nicora¹; Richard D Smith¹; Philip Hugenholtz²; Falk Warnecke³; Rudolf H Scheffrahn⁴; Mary S Lipton¹; ¹*Pacific Northwest National Laboratory, Richland, WA*; ²*DOE Joint Genome Institute, Walnut Creek, CA*; ³*Lawrence Berkeley National Laboratory, Berkeley, CA*; ⁴*University of Florida, Gainesville, FL*

TOA am 9:30 **Bio-Char Investigated by Analytical Flash Pyrolysis and GCMS;** Helge Egsgaard¹; Esben Wilson Bruun¹; Henrik Hauggaard-Nielsen¹; Per Ambus¹; Niels Bech²; Norazana Ibrahim²; Peter Arendt Jensen²; ¹*Biosystem Division; Risoe-DTU, Roskilde, Denmark*; ²*Department of Chem. Eng; DTU, Lyngby, Denmark*

TOA am 9:50 **Identification of the Extracellular Cellulolytic Enzymes in Thermophilic Bacteria that Are Important for Microbial Cellulose Degradation to Bioethanol;** Richard J. Giannone¹; Adriane Lochner¹; Andrew Dykstra^{1,2}; Martin Keller¹; James G. Elkins¹; Robert Hettich¹; ¹*Oak Ridge National Laboratory, Oak Ridge, TN*; ²*The University of Tennessee, Knoxville, TN*

TOA am 10:10 **Large Array Scheduled MRM Analysis of Metabolic Pathways Using an Enhanced Scan Rate Hybrid Triple Quadrupole / Linear Ion Trap;** Francesco Pingitore; Sofya Aronova; Miryam Kadkhodayan; Guillaume Cottarel; *Codexis, Inc., Redwood City, CA*

**8:30 – 10:30 AM, TUESDAY MORNING
ACCURATE MASS LC-MS APPROACHES FOR
CHARACTERIZATION AND QUANTIFICATION OF
DRUGS AND METABOLITES
Ballroom B**

TOB am 8:30 **Identification of a Novel CYP1A2-Mediated Bioactivation Pathway of Nimesulide Using LTQ-Orbitrap and Q-Trap Mass Spectrometers;** Li Ma; Qian Ruan; Jinping Gan; W. Griffith Humphreys; Mingshe Zhu; *Bristol-Myers Squibb, Princeton, NJ*

TOB am 8:50 **Combination of Fast Liquid Chromatography and Quadrupole Time-of-Flight for Quantitative Analysis of Pharmaceuticals in Plasma Using Accurate Mass;** Gerard Hopfgartner¹; J.C. Yves Leblanc²; Chantal Grivet¹; Emmanuel Varesio¹; ¹*University of Geneva, Geneva, Switzerland*; ²*MDS Analytical Technologies, Concord, ON*

TOB am 9:10 **An Integrated Approach to *in vitro* and *in vivo* Metabolite Quantitation Based on High Resolution Full Scan MS Data;** Jonathan L. Josephs¹; Chiuwa Emily Luk¹; Mary Grubb¹; Yanou Yang¹; Haiying Zhang¹; Hong Cai¹; Robert Langish¹; Petia Shipkova¹; Mark Sanders<sup>2^{SUP>}; ¹*Bristol-Myers Squibb, Pennington, NJ*; ²*Thermo Fisher Scientific, Somerset, NJ*

TOB am 9:30 **High-Resolution Analysis of the Pyridine-3-Sulfonyl Derivatives of 17 β -Estradiol and its Metabolites by Orbitrap-Mass Spectrometry;** Jacquelyn R. Cole¹; Dmitri Zagorevski²; David C. Spink¹; ¹*Wadsworth Center, NYS Department of Health, Albany, NY*; ²*Rensselaer Polytechnic Institute, Troy, NY*

TOB am 9:50 **2D Mass Mapping: Novel Data Visualization Method for Complex Peptide Mixtures Analysis;** Konstantin Artemenko¹; Alexander R. Zubarev¹; Tatiana Samgina²; Albert T. Lebedev²; Mikhail Savitski¹; Roman Zubarev³; ¹*Uppsala University, Uppsala, Sweden*; ²*Moscow State University, Moscow, Russian Federation*; ³*Karolinska Institute, Stockholm, Sweden*

TOB am 10:10 **Method Development for Absolute Quantitation of Insulin Grows Factor Binding Proteins (IGFBP) in Plasma Samples by Capillary LC-MS;** Olaf Boernsen; Denis Herzog; Stephan Charmont; Nelson Guerreiro; Francois Legay; Stephan Bek; *Novartis Pharma AG, Basel, Switzerland*

**8:30 – 10:30 AM, TUESDAY MORNING
CHARACTERIZING PROTEIN-LIGAND INTERACTIONS
WITH MASS SPECTROMETRY
Room 201**

TOC am 8:30 **Mass Spectrometry-Based Approaches for Monitoring Protein-Ligand Interactions: An Overview;** Lars Konermann; Jingxi Pan; Brian Boys; *The University of Western Ontario, London, ON, Canada*

TOC am 8:50 **Hydroxyl Radical Footprinting of CCL5-Chondroitin Sulfate Complex Reveals both the Binding Interface and a Ligand-Induced Conformational Change;** Caroline Watson; Fei Yu; James Prestegard; Joshua S. Sharp; *Complex Carbohydrate Research Center/UGA, Athens, GA*

TOC am 9:10 **Ligand Binding and Conformational Flexibility of Ribosomes;** William Running; James P. Reilly; *Indiana University, Bloomington, IN*

- TOC am 9:30 **Design and Application of Novel Cross-Linking Reagents for Mapping Protein-Protein Interactions;** Danielle Vellucci; Lan Huang; Scott Rychnovsky; *University of California, Irvine, CA*
- TOC am 9:50 **Investigation of VDR Modulator Interactions with the Full Length VDR/RXR α Nuclear Receptor Complex by HDX-MS;** Jun Zhang; Michael Chalmers; Bruce Pascal; Patrick Griffin; *The Scripps Research Institute, Scripps Florida, Jupiter, FL*
- TOC am 10:10 **Thermodynamic Analysis of Chaperone-Substrate Complexes;** Ying Xu¹; Sebastian Schmitt²; Liangjie Tang³; Ursula Jakob²; Michael C. Fitzgerald¹; ¹*Duke University, Durham, NC*; ²*University of Michigan, Ann Arbor, MI*; ³*ExSAR Corporation, Monmouth Junction, NJ*

**8:30 – 10:30 AM, TUESDAY MORNING
NOVEL DEVELOPMENTS IN MASS SPECTROMETRY
INSTRUMENTATION: ION SOURCES
Room 204**

- TOD am 8:30 **Infrared Matrix-Assisted Laser Desorption Electrospray Ionization Coupled to FT-ICR Mass Spectrometry;** Kermit K. Murray¹; Jason S. Sampson²; David C. Muddiman²; ¹*Louisiana State Univ., Baton Rouge, LA*; ²*North Carolina State University, Raleigh, NC*
- TOD am 8:50 **Desorption Electrospray/Metastable-Induced Ionization (DEMI): A New Ambient Multimode Ionization Technique;** Leonard Nyadong; Asiri Galhena; Facundo Fernandez; *Georgia Institute of Technology, Atlanta, GA*
- TOD am 9:10 **Enhanced Control of Nanophotonic Ion Production by Laser Desorption Ionization from Tailored Nanopost Arrays;** Jessica A. Stolee¹; Bennett N. Walker¹; Deanna L. Pickel²; Scott Retterer²; Akos Vertes¹; ¹*George Washington University, Washington, DC*; ²*Oak Ridge National Laboratory, Oak Ridge, TN*
- TOD am 9:30 **Implementation of an EI/CI Interface on a Hybrid Orbitrap System for Ultra-High Resolution GC-MS;** Amelia C. Peterson; Graeme C. McAlister; Joshua J. Coon; *University of Wisconsin, Madison, WI*
- TOD am 9:50 **Towards Total Ion Utilization: Electrospray Ionization in a Sub-Ambient Pressure Environment for High Sensitivity Mass Spectrometry;** Jason Page; Ioan Marginean; Ryan Kelly; Keqi Tang; Richard D. Smith; *Pacific Northwest National Laboratory, Richland, WA*
- TOD am 10:10 **Plasma-based Ambient Desorption/Ionization Mass Spectrometry (ADI-MS): Investigations into Desorption Characteristics and Competitive Ionization;** Jacob T. Shelley; Kevin P. Pfeuffer; Steven J. Ray; Gary M. Hieftje; *Indiana University, Bloomington, IN*

**8:30 – 10:30 AM, TUESDAY MORNING
QUANTITATIVE INTACT PROTEOMICS (QIP)
Exhibit Hall C**

- TOE am 8:30 **Quantitative Top-Down Proteomics and Systems Biology of Colon Cancer;** Rod Nibbe; Mark Chance; *Case Western Reserve University, Cleveland, OH*
- TOE am 8:50 **Genetic Inheritance of Proteome Variation in Human Lymphoblastoid Cells;** Megan Rowland; Hauqin Pan; Xinxin Zhang; Phillip

Cooley; Nikhil Garge; Benjamin J. Cargile; Maureen K. Bunger; *Research Triangle Institute, Research Triangle Park, NC*

- TOE am 9:10 **DIGE/MS and MudPIT: Adaptive Sample Size Re-Estimation to Combine Statistical Power with Depth of Coverage;** W. Hayes McDonald; Bing Zhang; Lillian B. Nanney; David B. Friedman; *Vanderbilt University School of Medicine, Nashville, TN*

- TOE am 9:30 **Relative Quantitative Analyses of Intact Methylated Yeast Ribosomal Proteins Using Fourier-Transform Mass Spectrometry;** Kristofor Webb; Rebecca Lipson; Julian Whitelegge; Steven Clarke; *University of California Los Angeles, Los Angeles, CA*
- TOE am 9:50 **A New Realm for Protein Quantitation: Reproducibility and Modification Occupancy Using Label-Free Top Down Mass Spectrometry;** John F. Kellie¹; Ji Eun Lee¹; John C. Tran¹; Dorothy R. Ahlf¹; Haylee M. Thomas¹; Adaikkalam Vellaichamy¹; Jeremiah D. Tipton²; Alan G. Marshall^{2,3}; Neil L.; ¹*University of Illinois, Urbana, IL*; ²*National High Magnetic Field Laboratory, Tallahassee, FL*; ³*Florida State University, Tallahassee, FL*

- TOE am 10:10 **Differential Gel Electrophoresis Examination of Asian Ash Tree Resistance to Emerald Ash Borer Attack Verses North American Ash Tree Susceptibility;** Kari Green-church; Alexandra Popoval-Butler; Cindy James; Justin GA Whitehill; Nan M Kleinholz; Daniel A. Herms; Pierluigi Bonello; *The Ohio State University, Columbus, OH*

**8:30 – 10:30 AM, TUESDAY MORNING
GAS-PHASE METAL ION CHEMISTRY
Room 103**

- TOF am 8:30 **Gas-Phase Reactions of Transition Metal Complexes with Diazoacetates: Substituent Effects and the Formation of Novel Organometallic Species;** Scott Gronert; Scott K. Koehn; *Virginia Commonwealth University, Richmond, VA*
- TOF am 8:50 **Competition between Cluster Fragmentation, C-C Bond Coupling and C-X Bond Activation in Silver Hexynyl Cluster Cations, [(C₄H₉CCAg)_nAg]⁺. Size Does Matter!** Richard A. J. O'hair¹; Farrah Q Wang^{1,2}; George N. Khairallah^{1,2}; Craig M Williams⁴; George Koutsantonis³; ¹*University of Melbourne, Victoria, Australia*; ²*Bio21 Inst, Uni of Melbourne, Melbourne, Australia*; ³*University of Western Australia, Perth, Australia*; ⁴*University of Queensland, Brisbane, Australia*
- TOF am 9:10 **Hydration Energies and Charge Separation Processes of Group 12 Dications;** Theresa Cooper; Damon R Carl; Peter B. Armentrout; *University of Utah, Department of Chemistry, Salt Lake City, UT*
- TOF am 9:30 **Connecting Reduction Energies of Hydrated Metal Ions to Aqueous Solution: The Absolute SHE Potential, and Proton and Electron Solvation Energies;** William A. Donald; Ryan D. Leib; Maria Demireva; Jeremy T. O'Brien; M. Jeannette Aiken; Evan R. Williams; *University of California, Berkeley, CA*
- TOF am 9:50 **Origin of Enantio-Selective Reduction of the Ternary Coppered D,L Amino-Acid**

Complexes under Activation Conditions; Francoise Fournier; Carlos Afonso; Denis Lesage; Valérie Mancel; Nicole Sellier; Jean-Claude Tabet; *University Paris VI (UPMC), Paris Cedex 05, France*

TOF am 10:10 **Radical Cations of Methionine, α -Methylmethionine and S-Methylcysteine: Generations and Dissociations in the Gas Phase;** Junfang Zhao¹; Dominic C. M. Ng²; Ivan K. Chu²; A.C. Hopkinson¹; K W Michael Siu¹; ¹*York University, Toronto, Canada*; ²*University of Hong Kong, Hongkong, China*

**8:30 – 10:30 AM, TUESDAY MORNING
MASS SPECTROMETRY IN HOMELAND PROTECTION
Room 113**

TOG am 8:30 **Mass Spectrometry in Biodefense;** Catherine Fenselau; *University of Maryland, College Park, MD*

TOG am 8:50 **Mass Spectrometric Tools to Determine Ricin Sample Processing Methods;** Karen L. Wahl; Helen W. Kreuzer-Martin; Jon H. Wahl; Heather A. Colburn; David S. Wunschel; Brian H. Clowers; *Pacific Northwest National Laboratory, Richland, WA*

TOG am 9:10 **Rapid Detection of Botulinum Neurotoxin in a Spiked Sample through Activity Detection and Proteomics;** Suzanne R. Kalb¹; Hercules Moura¹; Theresa J. Smith²; Leonard A. Smith²; James D. Marks³; John R. Barr¹; ¹*CDC, Atlanta, GA*; ²*USAMRIID, Ft. Detrick, MD*; ³*University of California at San Francisco, San Francisco, CA*

TOG am 9:30 **Rapid Identification of E. coli O157:H7 by "Top-Down" Proteomics Using MALDI-TOF/TOF Mass Spectrometry;** Clifton K. Fagerquist¹; Brandon R. Garbus¹; Katherine E. Williams²; Anna H. Bates¹; Siobhan Boyle¹; Leslie A. Harden¹; William G. Miller¹; Robert E. Mandrell^{1,2,3}; ¹*USDA, ARS, Albany, CA*; ²*UCSF, Department of Medicine, San Francisco, CA*

TOG am 9:50 **The Use of Affinity Capture Mass Spectrometry for Detection of Biomarker Proteins and Biological Warfare Agents;** Erin Johnson; Walther Ellis; Linda Powers; Vicki Wysocki; *University of Arizona, Tucson, AZ*

TOG am 10:10 **Bioaerosol Detection Using MALDI Ion Mobility and Mass Spectrometry;** Juaneka M. Hayes¹; Michael P. Tolocka¹; Kermit K. Murray¹; Ernest K. Lewis²; Thomas Egan²; J. Albert Schultz²; ¹*Louisiana State University, Baton Rouge, LA*; ²*Ionwerks Inc., Houston, TX*

**10:30 AM – 2:30 PM, TUESDAY
POSTER SESSION
Exhibit Hall AB**

**2:30 – 4:30 PM, TUESDAY AFTERNOON
LC-MS ASSESSMENT OF HUMAN METABOLISM IN
COMPLIANCE WITH "MIST" GUIDANCE
Ballroom A**

TOA pm 2:30 **A New Paradigm for Metabolite Profiling and Bioanalysis to Identify and Manage Metabolite Safety Concerns;** Scott W. Grimm; *AstraZeneca Pharmaceuticals, Wilmington, DE*

TOA pm 2:50 **A Methodology for Complete Plasma Metabolite Profiling and Identification with High-Resolution LC/MS to Address MIST Issues in Early Clinical Studies;** Haiping

Zhang¹; Wenying Li¹; Weiping Zhao³; Jonathan L. Josephs^{2,4}; William Humphreys¹; Mingshe Zhu⁵; ¹*Bristol-Myers Squibb R&D, Pennington, NJ*; ²*Bristol-Myers Squibb, Princeton, NJ*; ³*Bristol Myers Squibb, Princeton, NJ*; ⁴*Bristol-Myers Squibb, Pennington, NJ*; ⁵*Bristol-Myers Squibb, Princeton, NJ*

TOA pm 3:10 **Metabolite Profiling Challenges in the First-in-Human Study. Identification of Two Novel Metabolites of a Nociceptin Agonist;** Natalia Penner¹; Swapam K. Chowdhury²; ¹*Biogen Idec, Cambridge, MA*; ²*Schering-Plough, Kenilworth, NJ*

TOA pm 3:30 **A Review of Accurate Mass LC-MS Applications for Compliance with MIST Guidelines;** Richard Clayton; Brian Morrison; John Kendrick; *Covance Laboratories, Ltd, Harrogate, North Yorkshire, UK*

TOA pm 3:50 **A Retention-Time-Shift-Tolerant Background-Subtraction and Noise-Reduction Algorithm (BgS-NoRA) for Extraction of Drug Metabolites in LC-MS Data;** Peijuan Penny Zhu; Wei Ding; Wei Tong; Anima Ghosal; Kevin Alton; Swapam K. Chowdhury; *Schering-Plough Research Institute, Kenilworth, NJ*

TOA pm 4:10 **Rapid Detection and Characterization of N-acetyl-L-Cysteine Conjugates in Human Urine Using Polarity Switching of Quadrupole-Linear Ion Trap Mass Spectrometry;** Wenying Jian¹; Ming Yao²; Duxi Zhang²; Mingshe Zhu²; ¹*Johnson and Johnson, Raritan, NJ*; ²*Bristol-Myers Squibb, Princeton, NJ*

**2:30 – 4:30 PM, TUESDAY AFTERNOON
SMALL MOLECULE BIOMARKERS
Ballroom B**

TOB pm 2:30 **Exposure and Response Biomarkers of Cigarette Smoke: Implications in Pulmonary Disease Onset and Progression;** Stacy L. Gelhaus; Ian A. Blair; *Univ. of Penn/SOM/Pharmacol, Philadelphia, PA*

TOB pm 2:50 **Understanding the Incorporation of Gemcitabine into DNA and its Application as a Biomarker;** Enaksha R Wickremesinhe¹; Barry S Lutzke¹; Angela S Freeman¹; Susan E Pratt¹; Angela Bones¹; Crystal A Dotson-Roberts¹; Bradley L. Ackermann¹; Anne H Dantzig¹; ¹*Eli Lilly and Company, Indianapolis, IN*; ²*The Cleveland Clinic, Cleveland, OH*

TOB pm 3:10 **Determining the Compatibility between Processing and Staining Methods for Histological Analysis of Frozen Tissue Specimens and LC-MS Analysis of Hormones;** Jeffrey C. Hanson²; Donald Johann³; Jaime Rodriguez-Canales²; Xia Xu¹; Josip Blonder¹; Michael R. Emmert-Buck²; Timothy D. Veenstra¹; ¹*SAIC-Frederick, Inc., Frederick, MD*; ²*National Cancer Institute, Bethesda, MD*; ³*NIH, Bethesda, MD*

TOB pm 3:30 **Metabolic Biomarkers Discovery;** Vladimir Tolstikov; *UC Davis Genome Center, Davis, CA*

TOB pm 3:50 **High Throughput UFLC-MS/MS Analysis of Urinary Prostanoids before and after Exercise;** Matt Blatnik¹; Rick Steenwyk²; ¹*Pfizer Inc., Groton, CT*; ²*Pfizer, Lebanon, CT*

TOB pm 4:10 **Mass Spectrometry Strategies for Lipidome Analysis and the Identification of Lipid Biomarkers of Disease;** Todd A. Lydic; Julia V.

Busik; Gavin E. Reid; *Michigan State University, East Lansing, MI*

**2:30 – 4:30 PM, TUESDAY AFTERNOON
ADVANCES IN THE CHARACTERIZATION OF
GLYCOPROTEINS
Room 201**

- TOC pm 2:30 **A Lectin Affinity-Based Biomarker Discovery Workflow Targeting Cancer-Specific Glycopeptides in Human Plasma**; Penelope M. Drake²; Eric Johansen²; Richard Niles²; Michael Lerch²; Haichuan Liu²; Bensheng Li⁵; Simon Allen²; Kwanyoung Jung⁶; Steven C. Hall²; Bir; ¹*Buck Inst. for Age Research, Novato, CA*; ²*UCSF Mass Spectrometry Core, San Francisco, CA*; ³*Buck Institute for Age Research, Novato, CA*; ⁴*UC San Francisco, San Francisco, CA*; ⁵*Buck Inst for Age Research*
- TOC pm 2:50 **In-Depth Urinary N-Glycoproteome Profiling in Normal and Prostate Cancer Patient Urine**; Yong Zhou¹; Laura Knutzen¹; Hector Ramos¹; Carey Sheu¹; Paul Shannon¹; Hui Zhang²; Julian D Watts¹; Alvin Liu³; Ruedi Aebersold^{1,4}; ¹*Institute for Systems Biology, Seattle, WA*; ²*Johns Hopkins Medical Institutions, Baltimore, MD*; ³*University of Washington School of Medicine, Seattle, WA*; ⁴*IMBS, ETH&Faculty of Science, U of Zurich, Switzerland*
- TOC pm 3:10 **Glycopeptide Analysis of HIV-1 Envelope Proteins: Influence of Glycosylation on Envelope Immunogenicity**; Eden P. Go¹; Qing Chang¹; Hua-Xin Liao²; Sutherland Laura²; Munir Alam²; Barton F. Haynes²; Heather Desaire¹; ¹*University of Kansas, Lawrence, KS*; ²*Duke University Medical Center, Durham, NC*
- TOC pm 3:30 **Glycomics of the Antibacterial Salivary Agglutinin Protein Using LC-MS**; Niclas G. Karlsson¹; Samah Issa¹; Antoon J.M. Ligtenberg²; ¹*School of Chemistry, NUI Galway, Galway, Ireland*; ²*Department of Oral Biochemistry, Free University, Amsterdam, The Netherlands*
- TOC pm 3:50 **Site-Specific Glycosylation of Human Serum Glycoproteins via Partition and Quantitation of the N-Glycome-Utility for Disease Biomarker Discovery**; Caroline S. Chu¹; Ning Tang²; John Froehlich¹; Tony Ferrige³; Robert Alecio⁴; Patrick D. Perkins²; Kevin Killeen⁵; Keith Waddell²; Rudolf Grimm^{2,4}; ¹*UC Davis, Davis, CA*; ²*Agilent Technologies, Santa Clara, CA*; ³*Positive Probability Limited, Ely, UK*; ⁴*Positive Probability Ltd, Sittingbourne, UK*; ⁵*Agilent Laboratories, Santa*
- TOC pm 4:10 **Identification and Quantitation of Phosphorylated and O-GlcNAcylated Proteins Associated with Mitotic Spindles and Midbodies during Cytokinesis (Part B)**; Namrata Udeshi¹; Zihao Wang²; Chad Slawson²; Philip Compton¹; Jeffrey Shabanowitz¹; Gerald W. Hart²; Donald F. Hunt¹; ¹*University of Virginia, Charlottesville, VA*; ²*Johns Hopkins School of Medicine, Baltimore, MD*

**2:30 – 4:30 PM, TUESDAY AFTERNOON
NOVEL DEVELOPMENTS IN MASS SPECTROMETRY
INSTRUMENTATION: ANALYZERS, DETECTORS,
TANDEM INSTRUMENTS
Room 204**

- TOD pm 2:30 **A High Mass Resolution, Multiplexed Time-of-Flight Mass Spectrometer**; Robert H. Jackson;

Zhongyu Yang; C. Bronson Crothers; David A. Ferris; Stephen A. Lammert; *Stillwater Scientific Instruments, Inc., Orono, ME*

- TOD pm 2:50 **Direct Analysis Of Neutrals Using Superconducting Detector in Tandem Mass Spectrometry**; Masataka Ohkubo¹; Masahiro Ukibe¹; Shigetomo Shiki¹; Shigeo Tomita²; Shigeo Hayakawa³; ¹*National Inst. of Adv. Indust. Sci. Tech. (AIST), Tsukuba, Ibaraki*; ²*University of Tsukuba, Tsukuba, Ibaraki*; ³*Osaka Prefecture University, Sakai, Osaka*
- TOD pm 3:10 **Comparison of As-Built and Simion®174 Model Results for a Toroidal Ion Trap Mass Spectrometer**; Joseph Oliphant; Edgar Lee; Eric Handberg; *Torion Technologies, Inc., American Fork, UT*
- TOD pm 3:30 **Increased Proteome Definition Exploiting Performance Enhancements of a New Linear Ion Trap Mass Spectrometer**; Tonya P. Second; Justin Blethrow; Vlad Zabrouskov; Jae C. Schwartz; *Thermo Fisher Scientific, San Jose, CA*
- TOD pm 3:50 **Ion-Ion Interactions in the Orbitrap Mass Analyzer**; Richard H. Perry¹; Gary Abdiel Salazar¹; Qizhi Hu²; R. Graham Cooks¹; Robert J. Noll¹; ¹*Purdue University, West Lafayette, IN*; ²*Amgen, Inc., Thousand Oaks, CA*
- TOD pm 4:10 **Multiple-Reflection Time-of-Flight Mass Spectrometry of Exotic Nuclei**; Wolfgang R. Plass^{1,2}; Timo Dickel²; Arno Becker²; Ulrich Czok²; Hans Geissel^{1,2}; Christian Jesch²; Wadim Kinsel^{1,2}; Martin Petrick^{1,2}; Katrin Reinheimer^{2,4}; ¹*GSI, Darmstadt, Germany*; ²*Justus-Liebig-Universitaet Giessen, Giessen, Germany*; ³*Institute for Analytical Instrumentation, St. Petersburg, Russia*

**2:30 – 4:30 PM, TUESDAY AFTERNOON
THE ROLE OF MASS SPECTROMETRY IN
UNDERSTANDING CELLULAR PATHWAYS
Exhibit Hall C**

- TOE pm 2:30 **Quantitative Phosphoproteomics Identifies Sites in K-Cl Cotransporters that Regulate Cell Volume and Neuronal Excitation**; Jesse Rinehart¹; Yelena D. Maksimova¹; Jessica E. Tanis¹; Kathy Stone¹; Junhui Zhang¹; Mary Risinger³; Weijun Pan¹; Dianqing Wu¹; Christopher Colangelo<S>; ¹*Yale University, New Haven, CT*; ²*Howard Hughes Medical Institute, New Haven, CT*; ³*University of Cincinnati College of Medicine, Cincinnati, OH*
- TOE pm 2:50 **A Targeted Spatial-Temporal Proteomic Approach Reveals New Cellular Pathways Involved in Human Cytomegalovirus Virion Maturation**; Nathaniel J. Moorman; Thomas E. Shenk; Ileana M. Cristea; *Princeton University, Princeton, NJ*
- TOE pm 3:10 **Lysine Butyrylation is a Prevalent and Evolutionarily-conserved Posttranslational Modification Pathway**; Zhongyi Cheng; Kai Zhang; Zhihong Zhang; Yue Chen; Minjia Tan; Yingming Zhao; *University of Chicago, Chicago, IL*
- TOE pm 3:30 **Mapping Epigenetic Signaling Networks (the Human Epigenome) Using a Combined Proteomic-Genomic Approach**; Gary LeRoy; Nicolas L. Young; Mariana D. Plazas-Mayorca; Benjamin A. Garcia; *Princeton University, Princeton, NJ*

TOE pm 3:50 **Toward Simultaneously Assessing the Activation State of the Kinome including Substrate-Kinase Relationship;** Kazuishi Kubota¹; Rana Anjum¹; Yonghao Yu¹; Adam Feldman²; Chin-Lee Wu²; John Rush³; Judit Villen¹; Steven Gygi¹; ¹Harvard Medical School, Boston, MA; ²Massachusetts General Hospital, Boston, MA; ³Cell Signaling Technology, Danvers, MA

TOE pm 4:10 **Proteomics «Google»-Like Tool for Signaling Pathways;** Roman Zubarev; Konstantin Artemenko; Corina Mayrhofer; Y.M. Eva Fung; Karolinska Institute, Stockholm, Sweden

**2:30 – 4:30 PM, TUESDAY AFTERNOON
CLUSTERS/COMPLEXES/SOLVATED IONS
Room 103**

TOF pm 2:30 **Characterization of Floppy Systems with Vibrational Spectroscopy: Learning to Live with Anharmonic Effects;** Mark Johnson; Yale University, New Haven, CT

TOF pm 2:50 **Hydration of Hydrophobic and High Charge State Ions: Transitions from Gas-Phase Structure to Bulk;** James Prell; Jeremy T O'Brien; Evan R. Williams; University of California, Berkeley, CA

TOF pm 3:10 **Structures of Hydrated Metalated and Proton-Bound Dimer Adenine by IRMPD Spectroscopy;** Khadijeh Rajabi; Elizabeth Gillis; Travis Fridgen; Memorial University of NL, St. John's, NF

TOF pm 3:30 **Gas Phase Hydration of Trapped Peptides: Kinetics;** Xiangguo Shi; Joel H. Parks; Rowland Institute at Harvard, Cambridge, MA

TOF pm 3:50 **Chirality: Effects on Folding and Aggregation of Peptides;** Michael T. Bowers; Christian Bleiholder; Nicholas Dupuis; University of California, Santa Barbara, CA

TOF pm 4:10 **Influence of Configurational Entropy on the Dissociation Kinetics of Protein-Ligand Complexes in the Gas Phase;** Elena Kitova; John Klassen; University of Alberta, Edmonton, Canada

**2:30 – 4:30 PM, TUESDAY AFTERNOON
HDX FOR PROTEIN STRUCTURE AND FOLDING
Room 113**

TOG pm 2:30 **Structure of Lipid-Free and Lipid-Bound Human Apolipoprotein A-I by Hydrogen-Deuterium Exchange Analyzed by Mass Spectrometry;** Palaniappan S Chetty¹; Michael C Phillips¹; Lund-Katz S¹; Leland Mayne¹; David Stranz²; Walter Englander¹; ¹University of Pennsylvania, Philadelphia, PA; ²Sierra Analytics, Inc., Modesto, CA

TOG pm 2:50 **On the Conformation of HIV-1 Nef from Various Viral Strains;** Thomas E. Wales¹; Lori Emert-Sedlak²; Thomas E. Smithgall²; John R. Engen¹; ¹Northeastern University, Boston, MA; ²University of Pittsburgh School of Medicine, Pittsburgh, PA

TOG pm 3:10 **Insight into the Escherichia coli L7/L12 Ribosomal Stalk Complex from Hydrogen Exchange Mass Spectrometry;** Stephanie Deroo¹; Yuliya Gordiyenko¹; Carol Robinson²; ¹Cambridge University, Cambridge, UK; ²University of Cambridge, Cambridge, UK

TOG pm 3:30 **Conformational and Functional Effect of Posttranslational Modifications on sRAGE**

Protein by Solution-Phase H/D Exchange FT-ICR Mass Spectrometry; Hui-Min Zhang¹; Shaun McLoughlin²; Huan He¹; Carol Nilsson³; Mark R. Emmett¹; Alan G. Marshall¹; ¹Natl'l High Magnetic Field Lab/Florida State Univ., Tallahassee, FL; ²Abbott Laboratories, Abbott Park, IL; ³Pfizer, Inc., San Diego, CA

TOG pm 3:50 **Amyloidogenic beta-2-Microglobulin Transiently Populates a Long-Lived Unfolded State;** Thomas J.d. Jorgensen¹; Lei Cheng²; Anna Jansson⁴; Niels H.H. Heegaard³; ¹University of Southern Denmark, Odense M, Denmark; ²Dept. Biochemistry & Molecular Biology, Odense M, Denmark; ³Statens Serum Institut, Copenhagen, Denmark; ⁴Sidec AB, Stockholm, Sweden

TOG pm 4:10 **Examination of Electron-Induced Fragmentation of Intact Protein Ions as a New Tool in Top-Down HDX MS Measurements;** Rinat Abzalimov¹; Desmond Kaplan²; Michael Easterling²; Igor A. Kaltashov¹; ¹University of Massachusetts, Amherst, MA; ²Bruker Daltonics, Inc., Billerica, MA

**4:45 – 5:30 PM, TUESDAY
AWARD LECTURE
Exhibit Hall C**

4:45 pm **Presentation of the Thermo Scientific Research Award
Presentation of the Waters Corp. Research Award**

4:55 pm **Recipient of the Biemann Medal**

**8:30 – 10:30 AM, WEDNESDAY MORNING
EMERGING MS TECHNIQUES FOR DRUGS AND
METABOLITE IMAGING IN TISSUES
Ballroom A**

WOA am 8:30 **About Tissues, Compounds and Metabolites;** Markus Stoeckli; Dieter Staab; Brendan Prideaux; Novartis Institutes for BioMedical Research, Basel, Switzerland

WOA am 8:50 **Ambient Mass Spectrometric Imaging of Metabolites in Mus Musculus Brain and Arabidopsis Thaliana Leaf by Mid-Infrared Laser Ablation Electrospray Ionization;** Peter Nemes¹; Ales Svatos²; Akos Vertes¹; ¹George Washington University, Washington, DC; ²Max Planck Institute, Jena, Germany

WOA am 9:10 **High-Field MALDI FTMS for Direct Pre-Clinical Imaging of Drug Distribution and Metabolism;** Katherine A. Kellersberger¹; Michael L. Easterling¹; Santosh Kesari²; Claire M. Sauvageot²; Jeffrey N. Agar³; Nathalie Y.R. Agar⁴; ¹Bruker Daltonics, Inc., Billerica, MA; ²Dana Farber Cancer Institute, Harvard Med. School, Boston, MA; ³Brandeis University, Waltham, MA; ⁴Harvard Medical School, Neurosurgery, Boston, MA

WOA am 9:30 **9-Aminoacridine as a Matrix for *in situ* Characterization of Primary Metabolites and Anionic Phospholipids by MALDI Imaging Mass Spectrometry;** Farida Benabdellah¹; David Touboul¹; Alain Brunelle¹; Olivier Laprévote^{1,2}; ¹Mass spectrometry ICSN-CNRS, Gif-sur-yvette, France; ²Paris-Descartes University, Paris, France

- WOA am 9:50 **Mass Spectrometric Imaging of Plant Metabolites on Various Organs: Comparative Study of Genetically Mutated Arabidopsis vs. Wild Type**; Ji Hyun Jun^{1,2}; Zhenjiu Liu^{1,2}; Zhihong Song^{2,3}; Basil J. Nikolau^{2,3}; Edward S. Yeung^{1,2}; Young Jin Lee^{1,2}; ¹*Department of Chemistry, Iowa State University, Ames, IA*; ²*Ames Lab, Ames, IA*; ³*Department of Biochemistry, Iowa State University, Ames, IA*
- WOA am 10:10 **Spatial Querying of Mass Spectral Imaging Data Allows for Differential Analysis of Neurodegenerative Alterations in Tissue**; Raf Van de Plas; Kristiaan Pelckmans; Thomas Philips; Justin Vijay Louis; Bart De Moor; Etienne Waelkens; *K.U.Leuven, Leuven, Belgium*

**8:30 – 10:30 AM, WEDNESDAY MORNING
ADVANCES IN METABOLOMICS
Ballroom B**

- WOB am 8:30 **Metabolic Signatures of Human Drug Response Phenotyping**; Oliver Fiehn¹; Gert Wohlgemuth¹; Dinesh Kumar Barupal¹; Tobias Kind¹; Rima Kaddurah-Daouk²; ¹*UC Davis, Davis, CA*; ²*Duke University, Durham, NC*
- WOB am 8:50 **UPLC-MS Metabolite Profiling to Investigate the Influence of the Gut Microbiome on Host Metabolism**; Elizabeth J Want¹; Jonathan Swann¹; Florian Geier¹; James Sidaway²; Jeremy Nicholson¹; Elaine Holmes¹; Ian Wilson²; ¹*imperial College, London, UK*; ²*Astra Zeneca, Macclesfield, UK*
- WOB am 9:10 **Metabonomic Profiling and Metabolite Identification of Bromoethylamine, A Potent Nephrotoxicant**; Petia Shipkova¹; Serhiy Hnatyshyn¹; Mark Sanders²; Jeff Vassallo¹; Michael Reilly¹; Don Robertson¹; Lois Lehman-McKeeman¹; ¹*Bristol Myers Squibb, Princeton, NJ*; ²*Thermo Fisher Scientific, Somerset, NJ*
- WOB am 9:30 **Identification and Quantification of Metabolites in a Human Plasma Standard Reference Material by Multiple Mass Spectrometry Methods**; Nathan G. Dodder; Ruth Barak; Gauthier Eppe; Elizabeth A. McGaw; Stephen E. Stein; Karen W. Phinney; *NIST, Gaithersburg, MD*
- WOB am 9:50 **Accurate and Sensitive All-Ions Quantitation Using a New Ultra High Resolution LCMS and its Application to Endogenous Metabolite Profiling**; Mark Sanders¹; Kevin J. Mchale¹; Chunang (christine) Gu²; Petia Shipkova³; ¹*Thermo Fisher Scientific, Somerset, NJ*; ²*ThermoFisher Scientific, San Jose, CA*; ³*Bristol Myers Squibb, Princeton, NJ*
- WOB am 10:10 **High-Resolution, Full-Scan Mass Spectrometry for Quantitative Cellular Metabolomics and Fluxomics**; Michelle F. Clasquin; Wenyun Lu; Eugene Melamud; Joshua D. Rabinowitz; *Princeton University, Princeton University, NJ*

**8:30 – 10:30 AM, WEDNESDAY MORNING
NOVEL STRATEGIES FOR GAS PHASE ION
STRUCTURAL CHARACTERIZATION
Room 201**

- WOC am 8:30 **Cross Sectional Areas by Fourier Transform Ion Cyclotron Resonance (CRAFTI) Collisional Damping Analysis**; Fan Yang; Jacob Voelkel; David V. Dearden; *Brigham Young University, Provo, UT*

- WOC am 8:50 **Phosphopeptide Characterization by Femtosecond Laser-Induced Ionization/Dissociation (fs-LID)**; Gavin E. Reid; Christine L. Kalcic; Scott A. Smith; Marcos Dantus; *Michigan State University, East Lansing, MI*
- WOC am 9:10 **Ozone Induced Dissociation in Structure Elucidation**; Huong Pham; Todd W Mitchell; Michael Thomas; Stephen J Blanksby; *University of Wollongong, Wollongong, NSW, Australia*
- WOC am 9:30 **Infrared Multiphoton Dissociation of Peptides in a Dual Cell Linear Ion Trap Mass Spectrometer**; Myles Gardner¹; James Madsen¹; Suncerae Smith¹; Aaron Ledvina²; Jennifer Brodbelt¹; ¹*University of Texas - Austin, Austin, TX*; ²*UW Madison, Madison, WI*
- WOC am 9:50 **Homo- and Hetero-Oligomeric Complexes in the Gas Phase Investigated by Ion Mobility and Tandem Mass Spectrometry**; Elisabetta Boeri Erba; Brandon Ruotolo; Carol Robinson; *University of Cambridge, Department of Chemistry, Cambridge, UK*
- WOC am 10:10 **Identification and Inhibition of Gas Phase Rearrangements of Protonated YAGFL Analogs and their Fragments**; Ashley C. Gucinski; Asiri Galhena; Brittany R. Perkins; Arpad Somogyi; Vicki H. Wysocki; *University of Arizona, Tucson, AZ*

**8:30 – 10:30 AM, WEDNESDAY MORNING
APPLICATIONS OF ION MOBILITY SPECTROMETRY
Room 204**

- WOD am 8:30 **Application Overview of Ion Mobility Spectrometry Coupled with Mass Spectrometry**; Herbert H. Hill; William F. Siems; Kimberly A. Kaplan; Christina L. Crawford; Eric J. Davis; Roberto Fernandez Maestre; *Washington State University, Pullman, WA*
- WOD am 8:50 **Ion Mobility Characterization of Carbohydrate:Protein Conformational Binding**; Julie A. Leary¹; Raluca Stefanescu²; Connie Jen¹; ¹*UC Davis, Davis, CA*; ²*University of Davis, Davis, CA*
- WOD am 9:10 **A Shape Selective Study of Conformational Changes in Metal Containing Proteins**; James Scrivens¹; Frances D L Kondrat¹; Charlotte Scarff¹; Claudia A Blindauer¹; Narinder Sanghera¹; Gillian R. Hilton¹; Andrew C Gill²; Teresa Pinheiro¹; Ko; ¹*University of Warwick, Coventry, UK*; ²*Roslin Institute, Compton Laboratories, Compton, UK*
- WOD am 9:30 **Photofragmentation with VUV Post-Ionization Coupled with Ion-Mobility Mass Spectrometry for Analysis of Peptides and Sulfatides**; Thomas Egan¹; Ernest K. Lewis¹; Kelley Waters¹; Valerie Vaughn¹; Steve Ulrich¹; Shelley N. Jackson²; J. Albert Schultz¹; Amina S. Woods²; ¹*Ionwerks, Inc., Houston, TX*; ²*NIDA-IRP, NIH, Baltimore, MD*
- WOD am 9:50 **Ultrafast Field Asymmetric Waveform Ion Mobility Spectrometry/ Mass Spectrometry Analyses at Extreme Electric Fields in Microscopic Multichannel FAIMS Chips**; Alexandre A. Shvartsburg¹; Keqi Tang¹; Richard D. Smith¹; Martin Holden²; Andrew Thompson²; Martyn Rush²; Andrew Koehl²; David Ruiz-Alonso²; Danielle Touto; ¹*Pacific Northwest*

National Laboratory, Richland, WA; ²Owlstone Ltd., Cambridge, UK

WOD am 10:10 **Observation of Neutral Molecule (Ion-Pair) Evaporation from Ionic Liquid Nanodroplets by Tandem Differential Mobility Analysis-Mass Spectrometry (DMA-MS)**; Christopher J. Hogan; Juan Fernandez de la Mora; Yale University - Mechanical Engineering, New Haven, CT

**8:30 – 10:30 AM, WEDNESDAY MORNING
NEW DEVELOPMENTS IN BIOINFORMATICS
Exhibit Hall C**

WOE am 8:30 **A Fast Previewer for Shotgun Proteomics Data**; Marshall W. Bern; Palo Alto Research Center, Palo Alto, CA

WOE am 8:50 **A Probabilistic Algorithm for Protein Identification Using a Simple, Realistic Model that Recognizes Degeneracy**; Oliver Serang¹; Jason Weston²; Michael J. Maccoss¹; William Noble¹; ¹University of Washington, Seattle, WA; ²NEC Research, Princeton, NJ

WOE am 9:10 **Spectral Profiles: A Novel Representation of Tandem Mass Spectra and its Application for Gapped Peptide Generation**; Sangtae Kim; Nuno Bandeira; Pavel Pevzner; University of California San Diego, La Jolla, CA

WOE am 9:30 **Correlation of Database Entries and its Impact on Statistical Analysis in Peptide Identification**; Aleksey Y Ogurtsov; Gelio Alves; Yi-kuo Yu; National Center for Biotechnology Information, NLM, Bethesda, MD

WOE am 9:50 **Sequencing Proteins with MS/MS and a Homologous Reference Sequence**; Xiaowen Liu¹; Yonghua Han²; Denis Yuen³; Bin Ma¹; ¹University of Waterloo, Waterloo, Canada; ²University of Western Ontario, London, ON; ³Bioinformatics Solutions, Inc., Waterloo, ON

WOE am 10:10 **Proteogenomics of the Plague Bacterium, Yersinia Pestis**; Sam Payne; Shih-Ting Huang; Rembert Pieper; J Craig Venter Institute, Rockville, MD

**8:30 – 10:30 AM, WEDNESDAY MORNING
MS OF POLYMERS/MATERIALS I: STRUCTURES AND PROPERTIES
Room 103**

WOF am 8:30 **Role of the Adducted Cation in the Release of Nitroxide End-Group of Controlled Synthetic Polymers in Mass Spectrometry**; Michael Mazarin; Marion Girod; Stephane Viel; Trang Phan; Sylvain Marque; Stephane Humbel; Laurence Charles; University Aix-Marseille I & III, Marseille Cedex 20, France

WOF am 8:50 **Inconsistencies in the Analysis of Large Polycyclic Aromatic Hydrocarbons by Laser Desorption and Matrix Assisted Laser Desorption/Ionization Time-of-Flight Mass Spectrometry**; Hans Joachim Räder; Anna Cristadoro; Klaus Müllen; Max Planck Institute for Polymer Research, Mainz, Germany

WOF am 9:10 **Isotopically Labeled Nylon Provides Insight into Oxidative and Hydrolytic Degradation Mechanisms**; James Hochrein; Donald Bradley; Michael White; Steven Thornberg; Robert Bernstein; Sandia National Laboratories, Albuquerque, NM

WOF am 9:30 **Characterization of rf Plasma-Polymerized Compounds by MALDI Mass Spectrometry**;

Lijuan Peng; Gary R. Kinsel; Southern Illinois University Carbondale, Carbondale, IL

WOF am 9:50 **Comparison of Electron Transfer Dissociation and Collision-Induced Dissociation Fragmentation of Multiply Charged Polyethers**; Tony Jackson¹; Gillian R. Hilton²; Susan E. Slade²; James Scrivens²; ¹AkzoNobel CARG, Songjiang Industrial Estate, China; ²University of Warwick, Coventry, UK

WOF am 10:10 **Sample Spot Heterogeneity Investigated by MALDI - Imaging Mass Spectrometry**; Steffen M. Weidner; Jana Falkenhagen; Rolf-Dieter Schulze; Andreas Thuenemann; Fed.Inst.f.Mat.Research, Berlin, Germany

**8:30 – 10:30 AM, WEDNESDAY MORNING
COMPOSITIONAL ANALYSIS OF PETROLEUM BY MS
Room 113**

WOG am 8:30 **High Resolution MS/MS Techniques for the Investigation of Crude Oils and its Fractions**; Wolfgang Schrader¹; Saroj Panda¹; Kishore Sripada¹; Jan T. Andersson²; ¹Max-Planck Inst Coal Res., Mülheim / Ruhr, Germany; ²Inst. Inorg. and Analytical Chem, Univ. Muenster, Muenster, Germany

WOG am 8:50 **Non-Invasive Molecular Characterization of Kerogen and its Insoluble Biopolymer Precursors by Fourier Transform Mass Spectrometry**; Rachel L. Sleighter; Elodie Salmon; Heidi M. Bialk; Patrick G. Hatcher; Old Dominion University, Norfolk, VA

WOG am 9:10 **Comprehensive Characterization of Crude Oils by Thermalanalysis Coupled to a Novel Photo-Ionization Mass Spectrometer: Signatures of Vaporized Hydrocarbons and Asphaltene-Pyrolysis**; Robert Geißler^{1,2}; Thorsten Streibel^{1,2}; Mohammed Saraji^{1,2}; Ralf Zimmermann^{1,2}; ¹Universität Rostock, Rostock, Germany; ²Helmholtz Zentrum München, Oberschleissheim, Germany

WOG am 9:30 **A Unified Theory of Asphaltene Structure**; Amy McKenna¹; Ryan P. Rodgers¹; Alan G. Marshall³; ¹Natl High Magnetic Field Laboratory, Tallahassee, FL ²Ion Cyclotron Resonance Prog, Tallahassee, FL

WOG am 9:50 **Fingerprinting Heteroatom Hydrocarbons Using Ion Mobility – Mass Spectrometry**; Francisco Alberto Fernandez Lima; David H. Russell; Texas A&M University, College Station, TX

WOG am 10:10 **High-energy Laser-induced Acoustic Desorption/Fourier Transform Ion Cyclotron Resonance Mass Spectrometric Analysis of Heavy Petroleum Products**; David Pinkston; Vanessa Gallardo; Steven Habicht; Hilka Kentamaa; Purdue University, West Lafayette, IN

**10:30 AM – 2:30 PM, WEDNESDAY
POSTER SESSION
Exhibit Hall AB**

**2:30 – 4:30 PM, WEDNESDAY AFTERNOON
POLYPEPTIDE ION FRAGMENTATION:
THEORY AND EXPERIMENT
Ballroom A**

- WOA pm 2:30 **Enhancing ETD by Chemical Modifications that Increase Charge States of Peptides and Proteins;** Brian L. Frey; April Jue; Aaron Ledvina; Joshua J. Coon; Lloyd Smith; *University of Wisconsin, Madison, WI*
- WOA pm 2:50 **Structural Motifs that Suppress Peptide Ion Fragmentation after Electron Capture;** Tak-wah Dominic Chan; W. Y. Kelly Chan; *The Chinese Univ. of Hong Kong, Hong Kong Sar, China*
- WOA pm 3:10 **Side-Chain Mediated Fragmentation of Peptide Radical Ions Produced in 157 nm Photodissociation;** Liangyi Zhang; James P. Reilly; *Indiana university, Bloomington, IN*
- WOA pm 3:30 **Effect of Chain Length on “b” Fragment Structures in Collision-Induced Cissociation of Protonated Peptides;** Xian Chen¹; Long Yu¹; Jos Oomens²; Jeffrey Steill²; David H. Powell¹; Nicolas Polfer¹; ¹*University of Florida, Gainesville, FL*; ²*FOM Rijnhuizen, Nieuwegein, Netherlands*
- WOA pm 3:50 **IRMPD and H/D Exchange Reveals that the HA b₂⁺ Ion Is a Mixture of Diketopiperazine and Oxazolone Structures;** Brittany R. Perkins¹; Sung Hwan Yoon¹; Julia Chamot-rooke²; Arpad Somogyi¹; Vicki H. Wysocki¹; ¹*The University of Arizona, Tucson, AZ*; ²*CNRS, Palaiseau, France*
- WOA pm 4:10 **DFT Modeling of Proton Transfer Reactions for the Formation of (b₃)⁺ Ions within Alternative Amino Acid Model Tetrapeptides;** Travis Cooper; Michael J. Van Stipdonk; *Wichita State University, Wichita, KS*

**2:30 – 4:30 PM, WEDNESDAY AFTERNOON
APPLICATION OF DIRECT/OPEN AIR IONIZATION
TECHNIQUES FOR QUANTITATION OF DRUGS
Ballroom B**

- WOB pm 2:30 **An Overview of Ambient Surface Sampling and Ionization Techniques;** Gary J. Van Berkel; *Oak Ridge National Laboratory, Oak Ridge, TN*
- WOB pm 2:50 **Quantitation of Drugs in Biological Matrices by Desorption Electrospray Ionization: Accuracy, Precision, Dynamic Range and Limit of Detection;** Nicholas E. Manicke; Demian R. Ifa; R. Graham Cooks; *Purdue University, West Lafayette, IN*
- WOB pm 3:10 **Eliminating Method Development, Sample Preparation and Chromatographic Separations in High-Throughput Bioanalysis Using DART on an Enhanced Resolution Triple-Quadrupole Mass Spectrometer;** Elizabeth Crawford¹; Brian Musselman¹; Shaoxia Yu²; Jing-Tao Wu²; ¹*IonSense, Inc., Saugus, MA*; ²*Millennium Pharmaceuticals, Inc., Cambridge, MA*
- WOB pm 3:30 **Desorption Electrospray Ionization (DESI) for Direct Quantitation of Xenobiotics from Dried Blood Spots;** Christopher A. Evans¹; Chester Bowen¹; Joseph H Kennedy²; Justin Wiseman³; ¹*GlaxoSmithKline, King of Prussia, PA*; ²*Prosolia, Inc, Indianapolis, IN*; ³*Prosolia, Inc., Indianapolis, IN*
- WOB pm 3:50 **Ambient Surface Sampling Mass Spectrometry Using a Fully Automated Chip-Based Nano-Electrospray System;** Vilmos Kertesz; Gary J.

Van Berkel; *Oak Ridge National Laboratory, Oak Ridge, TN*

- WOB pm 4:10 **Application of Transmission Mode Desorption Electrospray Ionization (TM-DESI) to the Quantitative Analysis of Drugs;** Joe Chipuk¹; Jennifer Brodbelt²; ¹*University of Texas, Austin, TX*; ²*The University of Texas, Austin, TX*

**2:30 – 4:30 PM, WEDNESDAY AFTERNOON
ADVANCES IN PROTEOGLYCAN AND
CARBOHYDRATE ANALYSIS
Room 201**

- WOC pm 2:30 **It's a Sweet World: Glycomic Analysis and Cellular Communication in the Extra- and Intracellular Space;** Carol Nilsson¹; Huan He²; Mark R. Emmett³; Alan G. Marshall⁴; Roger A. Kroes⁶; Joseph R. Moskal⁶; Arugadoss Devakumar¹; Roslyn Dillon¹; Charles A. Conrad⁵; ¹*Pfizer, Inc., San Diego, CA*; ²*Florida State University, Tallahassee, FL*; ³*Nat'l High Magnetic Field Lab, Tallahassee, FL*; ⁴*Ion Cyclotron Resonance Prog, Tallahassee, FL*; ⁵*M.D. Anderson Cancer Center*
- WOC pm 2:50 **New Perspectives on the Interpretation of Glycosaminoglycan Tandem Mass Spectra;** Nancy Leymarie; Hicham Naimy; Gregory O Staples; Catherine E. Costello; Joseph Zaia; *BU School of Medicine, Boston, MA*
- WOC pm 3:10 **Characterization of Heparin-Derived Oligosaccharides using Ion-Pair Reversed-Phase LC/ESI-MS;** Weibin Chen; Catalin Doneanu; John Gebler; *Waters Corporation, Milford, MA*
- WOC pm 3:30 **Sequential Enrichment and Structural Analysis of Sulfated N-Glycans through Anion-Exchange Chromatography and MALDI-MS/MS;** Ming Lei; Yehia Mechref; Milos V. Novotny; *Indiana university, Bloomington, IN*
- WOC pm 3:50 **Exploring the N-linked Glycome for Early Detection of Epithelial Ovarian Cancer by NanoLC FT-ICR Mass Spectrometry;** Michael S. Bereman¹; William A. Cliby²; David C. Muddiman¹; ¹*North Carolina State University, Raleigh, NC*; ²*Mayo Clinic, Rochester, MN*
- WOC pm 4:10 **The Development of Methods towards High Throughput Clinical Glycomics;** Scott R. Kronewitter¹; Kyle S. Peacock¹; Maria Lorna de Leoz¹; Hyun Joo An¹; Suzanne Miyamoto²; Gary S. Leiserowitz²; Helen K. Chew²; Carlito B. Lebrilla¹; ¹*UC Davis, Davis, CA*; ²*UC Davis Cancer Center, Davis, CA*

**2:30 – 4:30 PM, WEDNESDAY AFTERNOON
DEVELOPMENTS IN IMAGING INSTRUMENTATION
Room 204**

- WOD pm 2:30 **New Strategies for Imaging Mass Spectrometry Using C60-SIMS and MALDI Probes;** Anthony Carado¹; Melissa Passarelli¹; Julie Wingate²; Alexandre Loboda²; Nick Winograd¹; ¹*Penn State University, University Park, PA*; ²*MDS Analytical Technologies, Concord, ON*
- WOD pm 2:50 **High Resolution C-60 SIMS and MALDI Microscopy Using a Delay Line Detector;** Leendert A. Klerk¹; Andriy Kharchenko¹; Luke Macaleese¹; Nicholas P. Lockyer²; John Vickerman²; Ron M.A. Heeren¹; ¹*FOM Institute for Atomic and Molecular Physics, Amsterdam, Netherlands*; ²*University of Manchester, Manchester, UK*

- WOD pm 3:10 **Digital Imaging Mass Spectrometry with the TimePix;** Casimir Bamberger¹; Andreas Bamberger²; ¹*Scripps Research Institute, La Jolla, CA*; ²*Physics Institute, Albert-Ludwigs University, Freiburg i. Br., Germany*
- WOD pm 3:30 **Investigation of Nanoscale Chemical Imaging via Tip-Enhanced, Near-Field Desorption/Ionization Mass Spectrometry at Atmospheric Pressure;** James A. Bradshaw; Kent A Meyer; Olga S. Ovchinnikova; Douglas E. Goeringer; *Oak Ridge National Laboratory, Oak Ridge, TN*
- WOD pm 3:50 **Laser Induced Material Transfer Combined with MALDI MS for a Sub-cellular Imaging;** Andrey I. Zavalin; Peggi Angel; Richard M. Caprioli; *Vanderbilt Univ Sch of Med, Nashville, TN*
- WOD pm 4:10 **MALDI-Tissue Imaging at High Resolution and Speed: Essential Steps Towards its Applications in Histology;** Soeren-Oliver Deininger; Detlev Suckau; Michael Becker; M. Schuerenberg; *Bruker Daltonik GmbH, Bremen, Germany*

**2:30 – 4:30 PM, WEDNESDAY AFTERNOON
CHARACTERIZATION OF MEMBRANE PROTEINS
Exhibit Hall C**

- WOE pm 2:30 **Filter Aided Sample Preparation (FASP) Combines the Advantages of In-Gel and In-Solution Digestion;** Jacek R. Wisniewski; Nagarjuna Nagaraj; Alexandre Zougman; Matthias Mann; *Max-Planck-Institute of Biochemistry, D-82152 Martinsried, Germany*
- WOE pm 2:50 **Quantitative Assessment of Enhanced Recovery of Hydrophobic Peptides from Reversed Phase Chromatography at Elevated Temperatures;** Kelli G. Kline; Sarah M. Moore; Christine C. Wu; *University of Colorado School of Medicine, Aurora, CO*
- WOE pm 3:10 **Scoring Peptides by their Retention Time: A Method that both Predicts and Incorporates Retention Time into a Peptide-Spectrum Match Scoring Function;** Lukas Käll¹; Michael J. Maccoss²; William Noble²; ¹*Stockholm University, Stockholm, Sweden*; ²*University of Washington, Seattle, WA*
- WOE pm 3:30 **Strategies for MALDI Imaging Mass Spectrometry of Integral Membrane Proteins;** Angus C. Grey¹; Pierre Chaurand¹; Richard M. Caprioli²; Kevin L. Schey¹; ¹*Vanderbilt University, Nashville, TN*; ²*Vanderbilt Univ Sch of Med, Nashville, TN*
- WOE pm 3:50 **The Subunits of a Large Integral Membrane Protein Complex characterized by Top-Down Fourier-Transform Mass Spectrometry;** Julian Whitelegge¹; Christopher Ryan¹; Puneet Souda¹; Sara Bassilian¹; Kym Faull¹; Balakumar Thangaraj²; Petra Fromme²; ¹*University of California LA, Los Angeles, CA*; ²*Arizona State University, Tempe, AZ*
- WOE pm 4:10 **Mass Spectrometry of Integral Membrane Transporters from Detergent Micelles Reveals their Stoichiometry and Interactions;** Shoshanna C. Isaacson; Nelson P. Barrera; Min Zhou; Dijana Matak-Vinkovic; Carol V. Robinson; *University of Cambridge, Cambridge, UK*

**2:30 – 4:30 PM, WEDNESDAY AFTERNOON
MS OF POLYMERS/MATERIALS II: HPLC AND ION
MOBILITY SEPARATION
Room 103**

- WOF pm 2:30 **Polymer Analysis Using GPC, Thermospray Deposition and MALDI-TOF Mass Spectrometry;** Mark Arnould; *Xerox, Webster, NY*
- WOF pm 2:50 **Structural Characterization of a Complex Nonionic Surfactant by LC-MSⁿ;** Nilufer Solak; Chrys Wesdemiotis; *The University of Akron, Akron, OH*
- WOF pm 3:10 **Characterization on Poly (*n*-Butyl Acrylate)s by LC/ESI-MSⁿ;** Junkan Song¹; Jan W. van Velde¹; Luc L.T. Vertommen¹; Ron M.A. Heeren²; Oscar F. van den Brink¹; ¹*Research, Development and Innovation, AkzoNobel, Arnhem, The Netherlands*; ²*FOM Inst. Atomic/Molecular Phy, Amsterdam, The Netherlands*
- WOF pm 3:30 **Recent Mass Spectrometric Developments and Investigations for Age Determination of Ball Point Ink Entries on Paper;** Dieter Kirsch¹; Vincent Guillou¹; Bernhard Spengler²; Peter Seiler¹; Fritz Koehler¹; ¹*Bundeskriminalamt, Wiesbaden, Germany*; ²*Analytical Chemistry, Giessen, Germany*
- WOF pm 3:50 **Identification of Poly(p-phenylene terephthalamide) Branching and Metathesis Products;** Anthony P. Gies; David M. Hercules; *Vanderbilt University, Nashville, TN*
- WOF pm 4:10 **Ion Mobility Spectrometry-Mass Spectrometry of Star-Branched Poly(ethylene glycols);** Barbara S. Larsen²; Calvin A. Austin¹; Brian Bohrer³; Ellen D. Inutan¹; Sadish Karunaweera¹; David E. Clemmer³; Sarah Trimpin¹; ¹*Wayne State University, Detroit, MI*; ²*The DuPont Company, Wilmington, DE*; ³*Indiana University, Bloomington, IN*

**2:30 – 4:30 PM, WEDNESDAY AFTERNOON
MS AND EMERGING ENVIRONMENTAL
CONTAMINANTS
Room 113**

- WOG pm 2:30 **Emerging Environmental Contaminants: What's New;** Susan Richardson; *US EPA, Athens, GA*
- WOG pm 2:50 **Analysis of Illicit Drugs and Metabolites in Wastewater Derived from an Educational Institution;** M. Paul Chiarelli¹; Sara Castiglioni²; Deepika Panawennage¹; Ettore Zuccato²; Enrico Davoli²; ¹*Loyola University, Chicago, IL*; ²*Mario Negri Institute, Milano, Italy*
- WOG pm 3:10 **Liquid Chromatography Accurate Mass Spectrometry Screening Analysis of Pharmaceuticals in Fish Collected from Effluent-Dominated Streams;** Alejandro J. Ramirez¹; C. Kevin Chambliss^{1,3}; Bryan W. Brooks²; ¹*Mass Spectrometry Core Facility, Baylor University, Waco, TX*; ²*Environmental Studies, Baylor University, Waco, TX*; ³*Chemistry and Biochemistry, Baylor University, Waco, TX*
- WOG pm 3:30 **Fast Analysis of Pharmaceuticals in Water following EPA Method 1694: Applications of UHPLC-MS/MS;** Michael Thurman; Imma Ferrer; *University of Colorado, Boulder, CO*
- WOG pm 3:50 **LC/MS/MS Characterization of Mechanisms of N-Nitrosodiphenylamine Formation during**

Water Chloramination Disinfection; Wenjun Zhou^{1,1}; Jessica Boyd^{1,2}; Feng Qin^{1,2}; Yuli Zhao^{1,2}; Xing-fang Li^{1,2}; ¹, Edmonton, Canada; ²University of Alberta, Edmonton, AB

WOG pm 4:10 **A Novel Technique Utilizing SBSE and DART-TOF for the Analysis of Pharmaceutical and Pesticide Contaminants in Aqueous Media;** Kathleen Brooks Loftin¹; Timothy P. Griffin¹; Christian A. Clausen III²; Robert B. Cody³; A. John Dane³; ¹NASA- Kennedy Space Center, Kennedy Space Center, FL; ²University of Central Florida, Orlando, FL; ³JEOL USA, Inc., Peabody, MA

**4:45 – 5:30 PM, WEDNESDAY
ASMS MEETING
Wine and Beer, Prizes and More!!
Exhibit Hall C**

**8:30-10:30, THURSDAY MORNING
MS OF PEPTIDE AND PROTEIN DRUGS
Ballroom A**

ThOA am 8:30 **Application of Immunoglobulin Degrading Enzyme IdeS and LC-MS Analysis as Powerful Characterization Method for Therapeutic Antibodies;** Anne Zeck; Joerg Regula; Wilma Dormeyer; Georg Drabner; Hans Rainer Völger; Hans Koll; Roche Diagnostics GmbH, Penzberg, Germany

ThOA am 8:50 **Stability of Protein Therapeutics under Near-Physiological Conditions: Conformation and Dynamics of Acid- β -Glucosidase;** Cedric Bobst¹; John J. Thomas²; Paul Salinas²; Rinat Abzalimov¹; Philip J. Savickas²; Igor A. Kaltashov¹; ¹University of Massachusetts, Amherst, MA; ²Shire HGT, Cambridge, MA

ThOA am 9:10 **Application of Fast Liquid Chromatography-UHR Time-of-Flight Mass Spectrometry to the Characterization of Pharmaceutical Grade rBet v 1 Birch Pollen Allergen;** Emmanuel Nony; Emmanuel Godat; Pierrick Lemoine; Thierry Batard; Philippe Moingeon; Stallergenes, Antony, France

ThOA am 9:30 **The Development of a Method for the Determination of a Proprietary Domain Antibody Therapeutic Using UPLC-MS/MS;** Matthew Szapacs; Jonathan Kehler; Sharon Boram; David Citerone; GlaxoSmithKline, Blue Bell, PA

ThOA am 9:50 **Sequence Elucidation of Unknown Peptide of High Doping Potential by Electrospray Ionization Mass Spectrometry;** Fuyu Guan¹; Cornelius Ubob²; Lawrence R. Soma¹; Jeffrey Rudy²; ¹University of Pennsylvania, West Chester, PA; ²PA Equine Toxicology, West Chester, PA

ThOA am 10:10 **The Challenging Topography of the LC/MS Peptide Map;** Scott Berger; Asish Chakraborty; Weibin Chen; Waters Corporation, Milford, MA

**8:30-10:30, THURSDAY MORNING
NOVEL LC-MS TECHNIQUES FOR REGULATED
BIOANALYSIS OF DRUGS
Ballroom B**

ThOB am 8:30 **HPLC-APPI-MS/MS Used as a Quantification Tool for Plasma Levels Studies of Cholecalciferol, Cinobufagin and Bisphenol-A;** Julien Breault-Turcot¹; Jean-Francois Levesque²; Sebastien Gagne²; ¹Université de Montréal,

Montréal, QC; ²Merck Frosst Canada & Co, Kirkland, Canada

ThOB am 8:50 **Is the Quantum Vantage Triple Quadrupole Mass Spectrometer Suitable for Regulated Bioanalysis?** Jim Shen; Roger N. Hayes; Jennifer N. Cunliffe; Schering-Plough Research Institute, Summit, NJ

ThOB am 9:10 **Combining High Speed Chromatography and Multistream HPLC Systems to Increase Productivity and Efficiency in the Bioanalytical Laboratory;** John Gibbons¹; Chad Briscoe²; Min J. Yang¹; Adrian Taylor¹; David Cox¹; ¹MDS Analytical Technologies, Concord, Canada; ²MDS Pharma Services, Lincoln, NE

ThOB am 9:30 **Quantification of Endogenous Leptin and Recombinant-Methionyl Human Leptin in Clinical Plasma Samples at Low-Nanomolar Levels by Immunocapture / Mass Spectrometry;** Yan Wang; Chris Bellows; Kristine de Dios; Swati Gupta; Joseph S. Heilig; Steven Taylor; Amylin Pharmaceuticals, Inc., San Diego, CA

ThOB am 9:50 **Monitoring Age Related Changes of Metabolism of Doxorubicin Using HPLC-LIF-MS/MS;** Joseph B Katzenmeyer; Yaohua Wang; Edgar A. Arriaga; University of Minnesota, Minneapolis, MN

ThOB am 10:10 **Analysis of Drug Residues in Milk by On-Line SPE/LC/MS/MS;** Claude Mallet; Claude Mallet; Waters Corporation, Milford, MA

**8:30-10:30, THURSDAY MORNING
MASS SPECTROMETRY AT THE INTERFACE BETWEEN
CHEMISTRY AND BIOLOGY
Room 201**

ThOC am 8:30 **Chemical Biology Approaches to Understanding the Regulation of Nuclear Receptors;** Michael J. Chalmers; Scott A. Busby; Ruben Garcia-Ordenez; Monica Istrate; Naresh Kumar; Scott Novick; Bruce D. Pascal; Jun Zhang; Patrick R. Griffin; The Scripps Research Institute, Jupiter, FL

ThOC am 8:50 **Probing Drug Mechanism of Action via Cellular Metabolomics: Thymineless Death and Glycineless Stasis;** Yun Kyung (Sophia) Kwon; Joshua Rabinowitz; Princeton University, Princeton, NJ

ThOC am 9:10 **Identification of Native Divalent and Trivalent Cross-linked Amino Acids from Left Ventricular Cardiac Collagen;** Forrest S.E. Helfrich; Timothy J. Black; Eric D. Dodds; Qianli Yu; Doug F. Larson; Vicki H. Wysocki; University of Arizona, Tucson, AZ

ThOC am 9:30 **FAC-MS Uncovers New Effectors for Old Transcriptional Regulators, Discovery of Novel Transcription Factor Effectors for MetJ;** Ricardo Marti-arbona²; Hiro Teshima³; Penny Anderson¹; Pat J. Unkefer⁴; Clifford Unkefer¹; ¹Los Alamos National Laboratory, Los Alamos, NM; ²Los Alamos National Laboratory, Los Alamos, NM; ³Los Alamos National Lab., Los Alamos, NM; ⁴Los Alamos National Lab, Los Alamos, NM

ThOC am 9:50 **Substantially Improved Reproducibility and Precision in Quantitative Proteomics Assays by Targeted Data Acquisition;** Frank Fischer; Mikhail Savitski; Gavain Sweetman; Marcus Bantscheff; Cellzome AG, Heidelberg, Germany

ThOC am 10:10 **Characterizing the Partitioning between RNA Regulatory Structures in the Moloney Murine Leukemia Virus Using Antisense LNAs;** Arie Hawkins; Daniele Fabris; *U. Maryland Baltimore County, Baltimore, MD*

**8:30-10:30, THURSDAY MORNING
FUNDAMENTAL ASPECTS OF ION/ELECTRON AND
ION/ION REACTIONS
Room 204**

ThOD am 8:30 **When Positive and Negative Ions Meet: Energetics, Structure, Mechanisms and More!** Evan R. Williams; William A. Donald; Ryan D. Leib; James S. Prell; *University of California, Berkeley, CA*

ThOD am 8:50 **Electron-Induced Rearrangements in Histidine and Arginine Peptides;** Frantisek Turecek¹; Jean Wyer²; Annelie Ehlerding²; Henning Zettergren²; Preben Hvelplund²; Steen Brondsted Nielsen²; Benjamin Bythell³; Bela Paizs³; ¹*University of Washington, Seattle, WA*; ²*University of Aarhus, Aarhus, Denmark*; ³*German Cancer Research Institute, Heidelberg, Germany*

ThOD am 9:10 **Uncommon Radical Rearrangements in Electron Capture Dissociation of Peptide Ions;** Cheng Lin¹; Xiaojuan Li¹; Nadezda P. Sargaeva¹; Peter B. O'Connor²; ¹*Boston University School of Medicine, Boston, MA*; ²*University of Warwick, Coventry, UK*

ThOD am 9:30 **Peptide Conformation Selectivity in Electron Capture and Transfer Dissociation;** Yury O. Tsybin; Hisham Ben Hamidane; Aleksey Vorobyev; Matthew Wodrich; Clemence Corminboeuf; *Ecole Polytechnique Federale, Lausanne, Switzerland*

ThOD am 9:50 **Mechanisms of Resonance Electron Capture by Neutral Peptides. Parallel with the ECD/ETD Mechanisms;** Yury V. Vasil'ev; Douglas F. Barofsky; Max L. Deinzer; *Oregon State University, Corvallis, OR*

ThOD am 10:10 **Reverse Electron Transfer Dissociation on Anionic Peptides Using Molecular Radical Cations;** Nicolas Polfer¹; Malwina Huzarska¹; Desmond Kaplan²; Michael Easterling²; ¹*University of Florida, Gainesville, FL*; ²*Bruker Daltonics, inc., Billerica, MA*

**8:30-10:30, THURSDAY MORNING
ADVANCES IN GLOBAL PHOSPHOPROTEIN
Exhibit Hall C**

ThOE am 8:30 **Biological Insights from Quantitative Analysis of Phosphorylation-Mediated Signaling Networks;** Forest M White; *MIT, Cambridge, MA*

ThOE am 8:50 **Why Large-Scale Phosphoproteomic Analyses Benefit from the Joint Use of Collision and Electron-Based Fragmentation Methods;** Paul A. Grimsrud; Danielle L. Swaney; Craig D. Wenger; Desiree den Os; Michael R. Sussman; Jean-Michel M. Ane; Joshua J. Coon; *University of Wisconsin, Madison, WI*

ThOE am 9:10 **Large-Scale Proteomic Analyses Reveal that Aurora B is a Master Kinase Regulating the C-phase Cytoskeleton;** Nurhan Ozlu³; Flavio Monigatti³; Bernhard Renard²; Christine Field¹; Hanno Steen³; Timothy Mitchison¹; Judith Steen³; ¹*Harvard Medical School, Boston, MA*; ²*University of Heidelberg, Heidelberg, Germany*;

³*Harvard Medical School/Children's Hospital Boston, Boston, MA*

ThOE am 9:30 **Tyrosine Phosphorylation Signaling Network Analysis Reveals That Focal Adhesion Kinase is Important during Mouse Embryonic Stem Cell Differentiation;** Yu Lu¹; Scott Ficarro²; Yi Zhang²; Manor Askenazi³; Jignesh Parikh²; Shaojuan Li²; C. John Luckey⁴; Jarrod Marto¹; ¹*Dana-Farber Cancer Institute, Harvard Medical School, Boston, MA*; ²*Dana-Farber Cancer Institute, Boston, MA*; ³*Dana-Farber Cancer Institute and Hebrew University, Boston, MA*; ⁴*Brigham Women's Hospital, Boston, MA*

ThOE am 9:50 **Analysis by Microfluidic LC-MS/MS with Integrated Phosphopeptide Enrichment Reveals Dynamic Human Milk Protein Phosphorylation during Lactation;** John W. Froehlich¹; Ning Tang²; Keith Waddell²; Karsten Kraiczek²; Martin Vollmer²; Tom Van De Goor²; Rudolf Grimm²; Carlito B. Lebrilla¹; ¹*University of California, Davis, CA*; ²*Agilent Technologies, Santa Clara, CA*

ThOE am 10:10 **In Vitro and In Vivo Study of Phosphorylated Histidine Containing Peptides by Nano-ESI/nano-HPLC Tandem Mass Spectrometry;** Bryan M. Ham¹; Feng Yang²; Samuel O. Purvine²; Rui Zhao²; Richard D. Smith²; Mary S. Lipton²; ¹*Customs & Border Protection, Newark, NJ*; ²*Pacific Northwest National Laboratory, Richland, WA*

**8:30-10:30, THURSDAY MORNING
NUCLEIC ACID MS
Room 103**

ThOF am 8:30 **Probing the Effects of Sodium Cationization on the Structure and Stability of Nucleic Acids via IRMPD Action Spectroscopy and Theory;** Mary T. Rodgers¹; B. Scott Fales¹; Nathaniel O. Fujamade¹; Nuwan Hallowita¹; Yuan-wei Nei¹; Jos Oomens²; Jeffrey Steill²; ¹*Wayne State University, Detroit, MI*; ²*FOM Rijnhuizen, Nieuwegein, Netherlands*

ThOF am 8:50 **IR Spectroscopy of DNA Single Strands, Duplexes and I-Motif to Characterize their Gas Phase Structure;** Frederic Rosu¹; Valerie Gabelica¹; Gilles Gregoire²; Charles Desfrancois²; Jean-Pierre Schermann²; Joel Lemaire³; Edwin De Pauw⁴; ¹*University of Liege, Liege, Belgium*; ²*UMR 7538 CNRS, Université Paris 13, Paris, France*; ³*Laboratoire de Chimie Physique, Orsay, France*; ⁴*Liege University, Liege, Belgium*

ThOF am 9:30 **Determining RNA Modifications Using Fourier Transform Ion Cyclotron Resonance Mass Spectrometry (FT-ICR MS);** Stefan Weidt¹; Angus Lamond²; Pat Langridge-smith¹; C. Logan Mackay¹; ¹*University of Edinburgh, Edinburgh, UK*; ²*University of Dundee, Dundee, UK*

ThOF am 9:30 **Investigating Higher-Order Structure of Nucleic Acids by IRMPD in FTICR Mass Spectrometry;** Joshua Wilhide; Katherine Kellersberger; Daniele Fabris; *U. Maryland Baltimore County, Baltimore, MD*

ThOF am 9:50 **LC-MS/MS for Assessing the Formation and the Cytotoxic/Mutagenic Properties of the Thymidine Glycol/8-Oxo-2'-Deoxyguanosine Tandem Lesion;** Yong Jiang; Bifeng Yuan; Yuesong Wang; Yinsheng Wang; *University of California, Riverside, CA*

ThOF am 10:10 **Identifying LEF1 IRES Protein Complexes by Mass Spectrometry**; Becky Tsai; Xiaorong Wang; Lan Huang; Marian Waterman; *University of California, Irvine, CA*

**8:30-10:30, THURSDAY MORNING
AEROSOL MS
Room 113**

ThOG am 8:30 **What Aerosol Mass Spectrometers Tell Us about the Air We Breathe**; Murray V. Johnston; *University of Delaware, Newark, DE*

ThOG am 8:50 **Detection of Aerosol Particles with a Quadrupole Ion Trap Mass Spectrometer**; G. Asher Newsome; Elias P. Rosen; Richard M. Kamens; Tomas Baer; Gary L. Glish; *University of North Carolina, Chapel Hill, NC*

ThOG am 9:10 **Reactive Uptake of Trimethylamine into Ammonium Nitrate Particles Using an IT-TOF Aerosol Mass Spectrometer**; Julie A. Lloyd¹; Katherine J. Heaton²; Murray V. Johnston³; ¹*University of the Sciences in Philadelphia, Philadelphia, PA*; ²*Phoenix S&T, Chester, PA*; ³*University of Delaware, Newark, DE*

ThOG am 9:30 **Two-Step Laser Ionization TOF-Mass Spectrometry for Analysis of Intact Organic Molecules from Individual Aerosol Particles: Detection of Organic Aerosol-Source Tracers**; Matthias Bente²; Martin Sklortz¹; Thorsten Streibel^{1,2}; Ralf Zimmermann^{1,2}; ¹*Universität Rostock, Rostock, Germany*; ²*Helmholtz Zentrum München, Oberschleissheim, Germany*

ThOG am 9:50 **Nanoparticle Atomic Composition from NAMS Spectra**; Christopher A. Zordan; Murray V. Johnston; *University of Delaware, Newark, DE*

ThOG am 10:10 **Miniaturized MS-based System for Rapid Detection and Identification of Chemical and Biological Warfare Agents and Toxic Industrial Chemicals**; Berk Oktem; Vadym D. Berkout; Andrey N. Vilkov; Thomas D. Saul; Appavu K. Sundaram; Seshu K. Gudlavalleti; Jane Razumovski; Chaminda M. Gamage; Eugene Moskovets; Robert M. Serino; Vladimir M. Doroshenko; *Science and Engineering Serv. Inc., Columbia, MD*

**10:30 AM – 2:30 PM, THURSDAY
POSTER SESSION
Exhibit Hall AB**

**2:30-4:30, THURSDAY AFTERNOON
IMAGING APPLICATIONS WITH MS
Ballroom A**

ThOA pm 2:30 **Capturing Complex Multi-Natural Product Discussions between Bacteria**; Pieter Dorrestein; *University of California, San Diego, Skaggs school, La Jolla, CA*

ThOA pm 2:50 **Tissue Preparation for the *in situ* MALDI MS Imaging of Proteins, Lipids, and Small Molecules at Cellular Resolution**; Nathalie Y. R. Agar²; Paul J. Kowalski³; John H. Wong¹; Kristin J. Boggio¹; Rebecca M. Lazarus¹; Jeffrey N. Agar¹; ¹*Brandeis University, Chemistry, Waltham, MA*; ²*Harvard Medical School, Neurosurgery, Boston, MA*; ³*Bruker Daltonics, Inc., Billerica, MA*

ThOA pm 3:10 **Total Solvent-Free Analysis Using Mass Spectrometry**; Sarah Trimpin¹; Calvin Austin¹; Charles N. McEwen²; Michael Walker³; ¹*Wayne*

State University, Detroit, MI; ²*Univ. of the Sciences in PA, Philadelphia, PA*; ³*Indiana University, Bloomington, IN*

ThOA pm 3:30 **Novel “Tomography” Mass Spectrometry Tissue Imaging Method**; Corina Mayrhofer¹; Alexander R. Zubarev¹; Eva Fung¹; Roman A. Zubarev²; ¹*Uppsala University, Uppsala, Sweden*; ²*Karolinska Institute, Stockholm, SWEDEN*

ThOA pm 3:50 **Tissue-less Tissue Imaging: Molecular Printing Using Affinity-Enhanced Chromatographic Surfaces for MALDI TOF/TOF**; Mariana Rusa; Steve Roth; Matthew Hammond; Vanitha Thulasiraman; Enrique Dalmaso; Fiona Plows; *Bio-Rad Laboratories, Inc., Hercules, CA*

ThOA pm 4:10 **Tissue Imaging of Neuropeptides by MALDI Orbitrap MS**; Peter D. Verhaert¹; Martijn Pinkse¹; Maria C. Prieto Conaway²; ¹*Delft University of Technology, Delft, Netherlands*; ²*Thermo Fisher Scientific, San Jose, CA*

**2:30-4:30, THURSDAY AFTERNOON
ADME ANALYSIS BY LASER DESORPTION AND OTHER
NEW MS TECHNIQUES
Ballroom B**

ThOB pm 2:30 **Utility of MALDI-MS for ADME Studies**; Walter Korfmacher; *Schering-Plough, Kenilworth, NJ*

ThOB pm 2:50 **Validation and Application of a Method for Quantification of Antidepressants in Plasma Samples Using a MALDI-QqQ system**; Timothy Sangster¹; Siew Mun Wan¹; Robert Macneill¹; Daniel Lebre²; Pauline J. Vollmerhaus²; Gary Impey²; ¹*HLS, East Millstone, NJ*; ²*Applied Biosystems/MDS Analytical Technologies, Concord, ON, Canada*

ThOB pm 3:10 **Investigation of Individual Drug and Metabolite Whole-Body Distributions via Accurate Mass Imaging MALDI Mass Spectrometry**; Sheerin Khatib-Shahidi¹; Sucharita Dutta²; Yingying Huang²; Caroline Ding²; Maria C. Prieto Conaway²; Cornelis Hop¹; Patrick J. Rudewicz¹; ¹*Genentech, Inc., South San Francisco, CA*; ²*Thermo Fisher Scientific, San Jose, CA*

ThOB pm 3:30 **High Throughput Profiling of Drug Metabolites Using Low Pressure LC/Orbitrap MS: An Alternative Approach to UPLC/MS**; Qian Ruan; Li Ma; Yuan-qing Xia; Mohammed Jemal; William Humphreys; Mingshe Zhu; *Bristol-Myers Squibb, Princeton, NJ*

ThOB pm 3:50 **Combined Multiple Survey Approach for Sulfate Metabolite Identification Studies Using a Hybrid Linear Ion Trap Triple Quadrupole Mass Analyzer**; Shaokun Pang¹; Loren Olson²; Elliott Jones²; Rongda Xu¹; Daniel B. Kassel¹; ¹*Takeda San Diego, Inc., San Diego, CA*; ²*Applied Biosystems, San Jose, CA*

ThOB pm 4:10 **Analysis of *in-vivo* Samples for Metabolite Identification with a Prototype QToF Mass Spectrometer with Enhanced Dynamic Range and Spectral Resolution**; Jose Castro-perez¹; Kate Yu¹; John P. Shockcor¹; Henry Y. Shion¹; Emma Marsden-edwards²; Jason L. Wildgoose²; Martin Green²; John B. Hoyes²; Alistair Wal; ¹*Waters Corporation, Milford, MA*; ²*Waters, Manchester, UK*; ³*Showa University, Tokyo, Japan*

**2:30-4:30, THURSDAY AFTERNOON
NEW DEVELOPMENTS IN IONIZATION
Room 201**

- ThOC pm 2:30 **Separations in a Single Droplet: Understanding Surface Effects in Electrospray Ionization;** Kaveh Jorabchi; Lloyd Smith; *University of Wisconsin, Madison, WI*
- ThOC pm 2:50 **Charge-State Reduction of Synthetic Polymers by SEC-ESI-MS with Postcolumn Addition of Ionic Surfactants;** Andreas Nasioudis¹; William F. Joyce²; Jan W. van Velde¹; Oscar F. van den Brink¹; ¹*AkzoNobel Research, Development & Innovation, Arnhem, Netherlands*; ²*AkzoNobel Surface Chemistry LLC, Brewster, NY*
- ThOC pm 3:10 **New Reagents for ESI "Supercharging" of Noncovalent Protein Complexes and Denatured Proteins;** Rachel O. Loo; Shirley Lomeli; Sheng Yin; Joseph A. Loo; *UCLA, Los Angeles, CA*
- ThOC pm 3:30 **A Simple Method for the Determination of Electrospray Response Factors of Non-Covalent Complexes: Application to DNA G-Quadruplex Binding and Self-Assembly;** Valerie Gabelica¹; Jussara Amato²; Giorgia Oliviero²; Frederic Rosu¹; Edwin De Pauw¹; ¹*University of Liege, Liège, Belgium*; ²*University Federico II, Napoli, Italy*
- ThOC pm 3:50 **AC Electrospray: A New Soft Ionization Technique for Mass Spectrometry;** Nishant Chetwani; David Go; Hsueh-Chia Chang; *University of Notre Dame, Notre Dame, IN*
- ThOC pm 4:10 **Positron Ionization Mass Spectrometry of Biomolecules;** Panagiotis G Papoulias¹; Alan Sebastian⁴; Eugene Surdutovich³; Kristina Hakansson²; Walter E Kauppila⁴; Philip Andrews²; ¹*National Resource For Proteo, Ann Arbor, MI*; ²*University of Michigan, Ann Arbor, MI*; ³*Oakland University, Rochester, MI*; ⁴*Wayne State University, Detroit, MI*

**2:30-4:30, THURSDAY AFTERNOON
ETD/ECD/EDD APPLICATIONS
Room 204**

- ThOD pm 2:30 **Ion/Ion and Ion/Electron Dissociation Methods: Characteristics and Instrumentation;** John E. P. Syka¹; James L. Stephenson²; ¹*Thermo Fisher Scientific, Charlottesville, VA*; ²*Research Triangle Institute, Research Triangle Park, NC*
- ThOD pm 2:50 **Reverse Electron Transfer Dissociation (rETD) of Glycosaminoglycan Negative Ions;** Jeremy Wolff²; Franklin E. Leach III¹; Tatiana Laremore³; Robert J. Linhardt³; Desmond Kaplan²; Michael Easterling²; Jon Amster¹; ¹*University of Georgia, Athens, GA*; ²*Bruker Daltonics, Billerica, MA*; ³*Rensselaer Polytechnic Institute, Troy, NY*
- ThOD pm 3:10 **ETD and the Combinatorial Epigenetic Histone Code: High-Throughput Hyper-Modified Peptide Analysis with Novel On-Line LC-MS Coupled to Electron Transfer Dissociation;** Nicolas L. Young; Peter A. DiMaggio; Mariana D. Plazas-Mayorca; Richard C. Baliban; Christodoulos A. Floudas; Benjamin A. Garcia; *Princeton University, Princeton, NJ*
- ThOD pm 3:30 **Sequencing of Bis-Arylhydrazone Cross-Linked Peptides by Electron Transfer Dissociation to Assess Protein-Protein Interactions;** Myles Gardner^{1,2}; Jennifer

- ThOD pm 3:50 **Electron Capture Dissociation *de novo* Sequencing by C- and Z- Terminal Fragment Discrimination Using Neutral-Radical Reaction;** Takashi Baba^{1,2}; Travis Greene¹; Gary L. Glush¹; ¹*University of North Carolina, Chapel Hill, NC*; ²*Hitachi Ltd., Tokyo, Japan*
- ThOD pm 4:10 **The Yeast Proteome Revealed by Electron Transfer Dissociation and a Multiple Protease-Based Shotgun Approach;** Danielle L. Swaney; Joshua J. Coon; *University of Wisconsin, Madison, WI*

**2:30-4:30, THURSDAY AFTERNOON
CHARACTERIZING PTMs
Exhibit Hall C**

- ThOE pm 2:30 **Characterization of AMPylation on Threonine, Serine, and Tyrosine Using Tandem Mass Spectrometry;** Yan Li; Rowaida Al-Eryani; Haydn L. Ball; *UTSW, Dallas, TX*
- ThOE pm 2:50 **Quantification of Histone Modifications upon Suz12 Deletion in Embryonic Stem Cells by High Mass Accuracy LTQ-CID/ETD-Orbitrap Mass Spectrometry;** Hye Ryung Jung¹; Diego Pasini²; Marco Ruijken³; Linda Olsson²; Kristian Helin²; Ole N. Jensen¹; ¹*University of Southern Denmark, Odense, Denmark*; ²*Biotech Research and Innovation Centre (BRIC), Copenhagen, Denmark*; ³*MsMetrix, Maarssen, The Netherlands*
- ThOE pm 3:10 **Selected Reaction Monitoring (SRM) of Ubiquitin Isopeptide Linkages in Neurodegenerative Disease;** Eric Dammer¹; Nicholas Seyfried¹; Ping Xu¹; Yair M. Gozal^{2,3}; Marla Gearing²; James J. Lah^{2,4}; Allan I. Levey^{2,4}; Junmin Peng^{1,2}; ¹*Emory University Department of Human Genetics, Atlanta, GA*; ²*Center for Neurodegenerative Disease, Atlanta, GA*; ³*Graduate Program in Neuroscience, Atlanta, GA*; ⁴*Department of Neurology, Atlanta, GA*
- ThOE pm 3:30 **Glycation Isotopic Labelling with 13C6-Reducing Sugars for Quantitative Analysis of Glycated Proteins;** Feliciano Priego-capote¹; Alexander Scherl¹; Yohann Couté²; Jean-charles Sanchez³; ¹*University of Geneva, Geneva, Switzerland*; ²*Biomedical Proteomics Group, Structural Biology, Geneva, Switzerland*; ³*Geneva University, Geneva, Switzerland*
- ThOE pm 3:50 **Characterization of Mycobacterium Tuberculosis Membrane and Surface Exposed Proteins by Liquid Chromatography Mass Spectrometry-Based Proteomics Techniques;** Christina Bell^{1,2}; Mike Sweredoski¹; Sonja Hess¹; ¹*Caltech, Pasadena, CA*; ²*Johannes Gutenberg Universität, Mainz, Germany*
- ThOE pm 4:10 **Revealing the Unexpected with Multi-Species Comparative Proteomics;** Dumitru Brinza¹; Mary S. Lipton²; Kim K. Hixson²; Richard D. Smith²; Pavel Pevzner¹; Nuno Bandeira³; ¹*University of California, San Diego, La Jolla, CA*; ²*PNNL / Battelle Northwest, Richland, WA*; ³*Center for Computational Mass Spectrometry, UCSD, La Jolla, CA*

**2:30-4:30, THURSDAY AFTERNOON
MINIATURIZATION OF THE MASS SPECTROMETER
Room 103**

- ThOF pm 2:30 **Miniature Mass Spectrometers: Overview;** R. Graham Cooks; Jason Harper; Nicholas Charipar; Guangming Huang; Liang Gao; Robert J. Noll; Zheng Ouyang; *Purdue University, West Lafayette, IN*
- ThOF pm 2:50 **Planar Electrode Ion Traps;** Daniel Austin; Zhiping Zhang; Ying Peng; Brett Hansen; Miao Wang; Milton Lee; Aaron Hawkins; *Brigham Young University, Provo, UT*
- ThOF pm 3:10 **Fundamentals of Miniature Quadrupole Mass Filters;** Stephen Taylor¹; Boris Brkic¹; Adam Clare¹; Thomas J Hogan¹; Neil France²; ¹*University of Liverpool, Liverpool, UK*; ²*Q-Technologies Ltd, Liverpool, UK*
- ThOF pm 3:30 **In situ Mass Spectrometry for Marine Applications: Present and Future;** Tim Short¹; Ryan J. Bell^{1,2}; Ashish Chaudhary^{1,2}; Friso H. W. Van Amerom¹; Strawn K. Toler¹; ¹*SRI International, St Petersburg, FL*; ²*University of South Florida, St Petersburg, FL*
- ThOF pm 3:50 **Advances in Hand-Portable Gas Chromatography-Toroidal Ion Trap Mass Spectrometry;** Milton L. Lee; *Brigham Young University, Provo, UT*
- ThOF pm 4:10 **Development, Characterization and Optimization of a Multiple Source Rectilinear Ion Trap Miniature Mass Spectrometers;** Liang Gao; Jason Harper; Guangming Huang; Sameer Kothari; Nathan Sanders; R. Graham Cooks; Zheng Ouyang; *Purdue University, West Lafayette, IN*

**2:30-4:30, THURSDAY AFTERNOON
MS AND NANO-SCIENCE/NANO-TECHNOLOGY
Room 113**

- ThOG pm 2:30 **Nanostructure-Initiator Mass Spectrometry (NIMS) Imaging: Direct Analysis of Endogenous and Exogenous Metabolites in Tissues;** Hin-koon Woo; Oscar Yanes; Gary J Patti; Wilasinee Uritboonthai; Junefredo Apon; Gary Siuzdak; *The Scripps Research Institute, La Jolla, CA*
- ThOG pm 2:50 **Field Enhanced Optimization of MALDI-TOF-MS Sample Preparation for Peptides Analysis Using Induction Based Fluidics (IBF);** Julie Harmon; Paul Tate; Kevin J Clifford; Ted Gauthier; *University of South Florida, Tampa, FL*
- ThOG pm 3:10 **Microfluidic-Based NanoLC/QQQ for High-Sensitivity Quantification of Pharmaceutical Molecules in Small Volumes of Whole Blood;** Stephan Buckenmaier; Lukas Trojer; *Agilent Technologies, Waldbronn, Germany*
- ThOG pm 3:30 **Characterization of Free-Standing Nano-Objects Using Single Impact Cluster-SIMS;** Veronica Pinnick¹; Stanislav Verkhoturov¹; Leonid Kaledin²; Emile A. Schweikert¹; ¹*Texas A&M University, College Station, TX*; ²*Argonide Corporation, Sanford, FL*
- ThOG pm 3:50 **Quantitative Proteomic Analysis of Mouse Lymph Nodes Exposed to Titanium Dioxide Nanoparticles;** Yuan Gao; Neera V. Gopee; Ricky D. Holland; Paul C. Howard; Li-Rong Yu; *National Center for Toxicological Research/FDA, Jefferson, AR*

ThOG pm 4:10 **Multiplexed Tracking of Functionalized Gold Nanoparticles in Biological Systems Using Laser Desorption/Ionization Mass Spectrometry (LDI-MS);** Zhengjiang Zhu; Oscar R. Miranda; Vincent M. Rotello; Richard Vachet; *University of Massachusetts Amherst, Amherst, MA*

**4:45 –5:30 PM, MONDAY
PLENARY LECTURE
Exhibit Hall C**

Fostering Creativity



Richard N. Zare, Stanford University